Attachment A. Flow Frequency Memorandum

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office
4949-A Cox Road Glen Allen, Virginia 23060

SUBJECT: Flow Frequency Determination / 303(d) Status
American Hardwood Industries, LLC. – VA0090433

TO: Janine Howard

FROM: Jennifer Palmore, P.G.

DATE: January 20, 2011

COPIES: File

The American Hardwood Industries facility discharges to an unnamed tributary of Herrick Creek near West Point, VA. The facility was previously named Augusta Wood Products. The outfall is located at rivermile 8-XDZ000.55. Flow frequencies have been requested at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

At the discharge point, the receiving stream is shown as intermittent on the USGS West Point 7 ½' Quadrangle topographic map. The flow frequencies for intermittent streams are shown below.

Herrick Creek, UT:

1Q30 = 0.0 MGD	High Flow 1Q10 = 0.0 MGD
1Q10 = 0.0 MGD	High Flow 7Q10 = 0.0 MGD
7Q10 = 0.0 MGD	High Flow 30Q10 = 0.0 MGD
30Q10 = 0.0 MGD	HM = 0.0 MGD
30Q5 = 0.0 MGD	

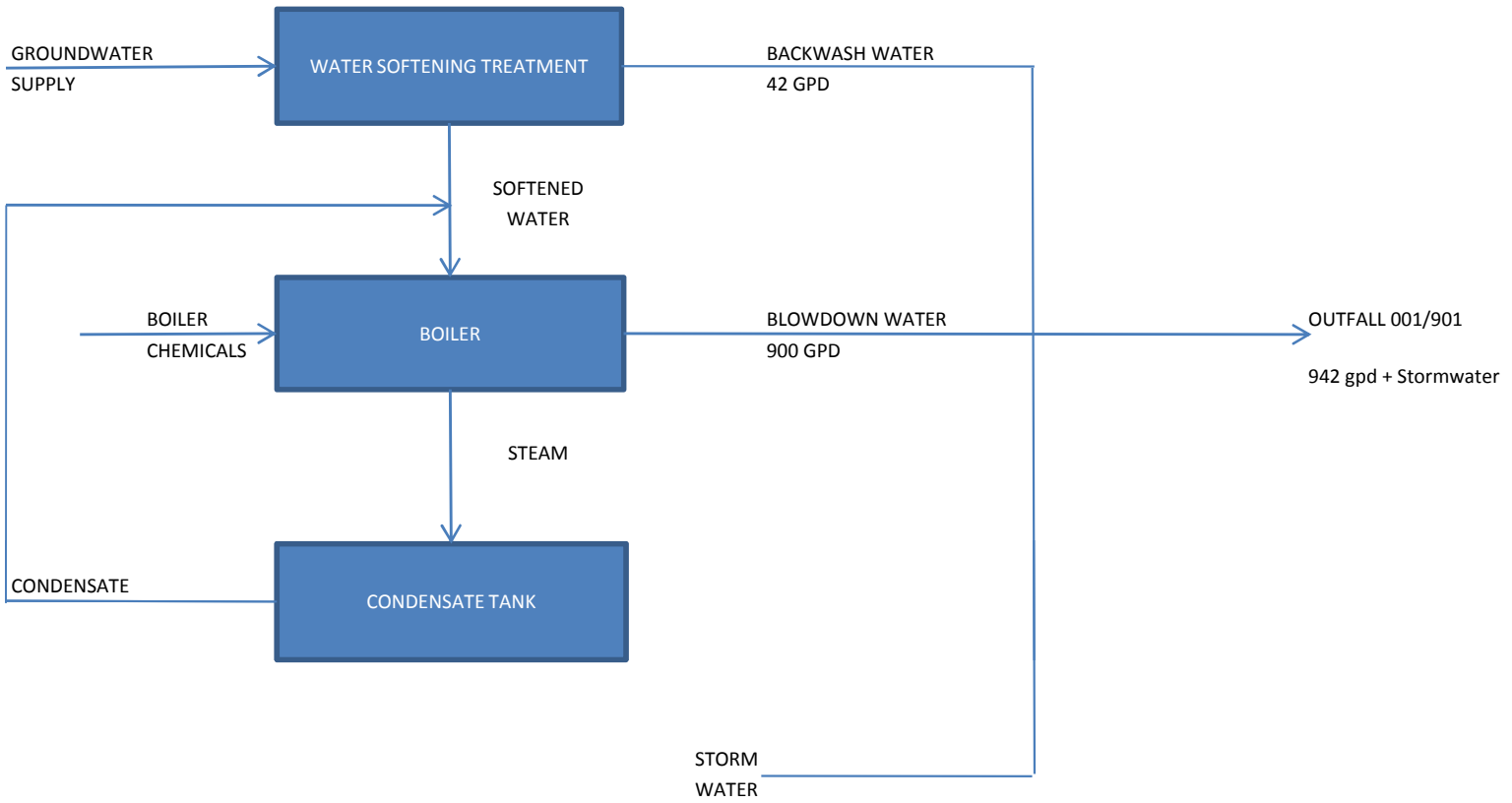
The unnamed tributary was not assessed for any designated uses during the 2008 or draft 2010 305(b)/303(d) Water Quality Assessments, therefore the stream is considered a Category 3A water ("No data are available within the data window of the current assessment to determine if any designated use is attained and the water was not previously listed as impaired.")

Although the tributary is not impaired for the Recreation Use, the watershed was included in the Upper York River bacterial TMDL, which was approved by the EPA on 7/28/2010 and by the SWCB on 12/13/2010. The facility was listed in the TMDL, but did not receive a wasteload allocation because it is not permitted for fecal coliform control.

Due to its intermittent nature, the stream is considered a Tier 1 water.

If you have any questions concerning this analysis, please let me know.

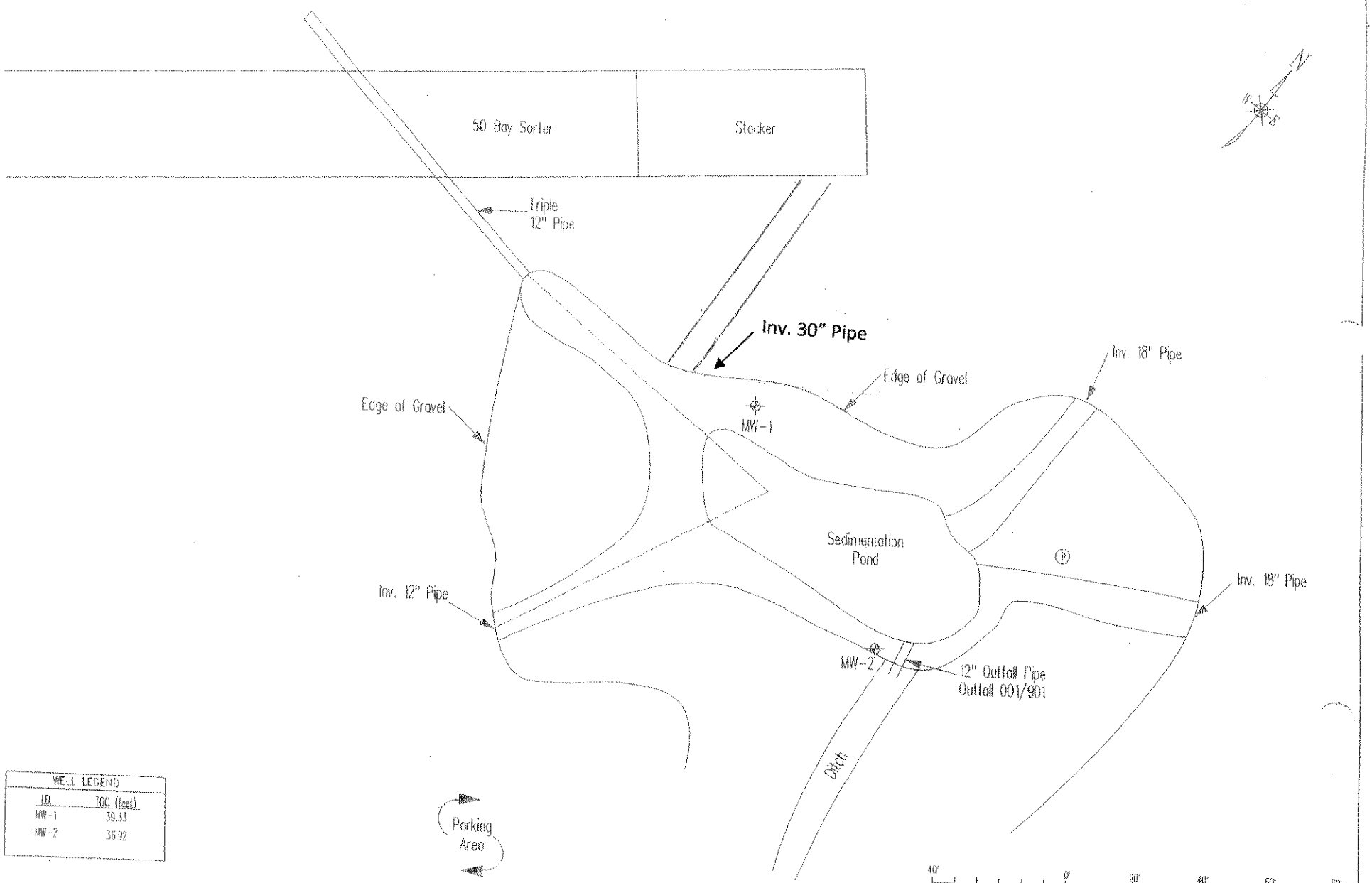
Attachment B. Plant flow diagram, Facility Diagram



LINE DRAWING FORM 2C
AMERICAN HARDWOOD INDUSTRIES
WEST POINT MILL
35072 KING WILLIAM ROAD
WEST POINT, VA. 23181

DRAWN BY: RAA

DATE: 4/29/2011



WELL LEGEND	
ID	TOC (feet)
MW-1	39.53
MW-2	36.92

LEGEND	
⌖	Groundwater Monitoring Well Location
Ⓟ	Utility Pole

	DR.: BRW	07 JAN 02
	CK.:	
	APPD.:	
	SCALE: 1" = 40'	
	APEX PROJ. NO.: 168359.002	
REV	BY	DATE

www.apexenv.com

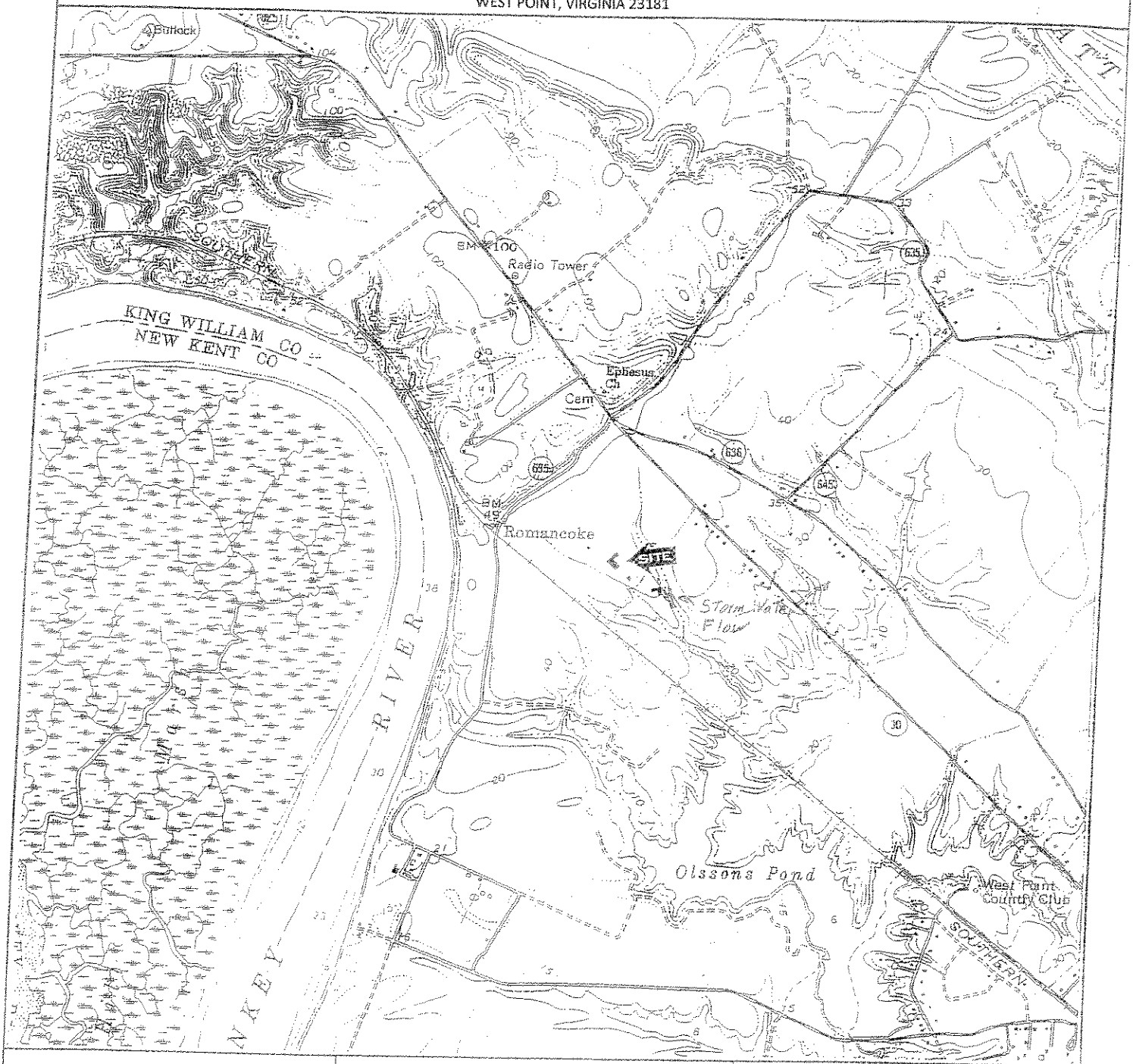
VPDES
PERMIT
#VA0090433

Apex environmental, inc.®
456 SOUTHLAKE BOULEVARD
RICHMOND, VIRGINIA 23236
(804) 897-2718
apexva@erols.com

GROUNDWATER MONITORING WELL LOCATIONS
AMERICAN HARDWOOD INDUSTRIES, LLC
AUGUSTA LUMBER DIV
35072 KING WILLIAM ROAD
WEST POINT, VIRGINIA 23181

Attachment C.
Topographic Map (USGS West Point Quadrangle)

SITE LOCATION
AMERICAN HARDWOOD INDUSTRIES, LLC
AUGUSTA LUMBER DIV
35072 KING WILLIAM ROAD
WEST POINT, VIRGINIA 23181



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WEST POINT, VIRGINIA

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Sources: U.S.G.S. Topographic Map of the West Point Quadrangle, Virginia, 7.5 Minute Series. (1965, revised 1968). Scale: 1 inch equals 2,000 feet.

468 Southlake Boulevard
Richmond, VA 23236
Apex environmental, inc. (804) 897-2718

Apex Job No.:	768319.001
Drawn By:	CLC
Date:	June 24, 1999
Scale:	1 inch = 2,000 feet

SPCC Plan & SWPPP Plan

Attachment D.
Site Inspection Report and AST inventory

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

Piedmont Regional Office

4949-A Cox Rd Glen Allen, VA 23060 (804) 527-5020

SUBJECT: Site Visit- VA0090433- American Hardwood Industries, LLC- Augusta Lumber Division, West Point Mill

TO: File

FROM: Janine Howard, PRO

DATE: 2 February 2011

On February 2, 2011 at 10:30 am Ray Jenkins (DEQ-PRO) and I met with Ron Arehart, American Hardwood Industries Engineer, and Carl Hall, General Manager of the West Point Mill to conduct a site visit of the subject facility. The facility, located at 33072 King William Road, West Point, VA, is a sawmill and lumber drying operation. Boiler blowdown generates a non-process wastewater in addition to boiler supply filter backwash. The site has a drainage ditch network (Figure 1) which directs stormwater runoff from the buildings, parking lots, and log storage to the sedimentation basin. Boiler blowdown also enters these drainage ditches and ultimately drains to the sediment basin. The site setup is such that non-process wastewater and stormwater comingle in the conveyance ditches as well as the sediment basin. Obtaining a pure non-process water (boiler blowdown) sample is difficult to achieve due to comingling in the sediment basin.

The sediment basin (Figure 3) was inspected and was discharging on the day of the visit. The entire site was sodden and all of the stormwater conveyances had stormwater flowing through them (Figure 2). The discharge occurs at outfall 001 (dry weather) and 901 (wet weather). Sampling of the discharge is conducted at a small v-notch weir just down-stream of the sedimentation basin dam (Figure 4). Carl Hall indicated that he has never seen the sedimentation basin completely dry, even in the summer, reinforcing the theory that obtaining a true sample of purely boiler blowdown is not possible at the sampling location due to the comingling of boiler blowdown and stormwater throughout the drainage network on the site as well as in the sedimentation basin. The basin is to be dredged in 2011; the permittee is in the process of receiving quotes from prospective contractors. The dredged material will be disposed of at a landfill or applied to the land at the back end of the property which is currently vacant and, in places, used for storage.

A large portion of the facility is dedicated to lumber storage. Raw wood arrives and is placed on the log storage concrete pad (Figure 6) prior to entering the sawmill. To date wet decking has not been conducted at this facility however Mr. Arehart indicated that in the future permit term this activity may occur. If it were to occur, the activity would be on a very small scale using a simple garden sprinkler system placed on top of the log piles (Figure 7). The permittee intends only to wet deck during the summer months when the risk of the wood cracking is greatest. This would occur only over the concrete pad and no discharge is anticipated as the water use will be minimal; the majority of the water will quickly evaporate in the summer heat and soak into the logs.

From the log storage area, the wood is fed into the sawmill and is then sorted. Sorted wood is stacked on pads, interlaced with small separators (wooden sticks) which are inserted between

planks to allow air flow in between the planks to aid the drying process. The lumber is then transferred to another storage area located in front and to the left of the office area as you enter the site (Figure 5). Here, the lumber is allowed to naturally dry in the atmosphere for 30- 60 days. After this period the lumber stacks are fed into the kilns for a period of time until the moisture content of the wood is approximately 6-7%

Dried lumber is stored undercover prior to being dipped in Workhorse®, a treatment to provide resistance against sap stain and mold (Figure 9). The dip tank is protected from potential damage from vehicles by a concrete blockade. The permittee is aware that more containment around the steel dip tank is advisable. Dipping occurs only in the summertime and dipped logs are allowed to dry, suspended over the dip tank, prior to being moved across the road to the wax area. Wax (Sealtite 60 Clear) is then applied to the ends of the logs. In the 2007 DEQ inspection conducted by Charlie Stitzer it was noted that chemical spillage of the Sealtite 60 Clear had occurred near the sedimentation pond. When asked about this Mr. Arehart said that at the time of the inspection the wax was applied to the lumber at this location. In response to the inspection, the facility moved the wax area to just over the road from the dip tank. The wax is now kept in a defined area dedicated to the wax application and adequate containment and roofing was noted (Figure 8). The final step involves painting the ends of the logs and the Augusta logo on the side of the bundles prior to shipment.

Above ground storage tanks (ASTs) containing hydraulic fuel and diesel fuel are stored on the site, all with secondary containment (Figure 10). Most are located in the “Metal Shed” near the office. Spill kits are kept throughout the site should a leak occur. De-scaling chemicals are kept in the boiler room, with secondary containment around most. The paint application area needs improvement with regard to containment and housekeeping. Painting is currently completed just outside of the sorter. Puddles of green-tinged water were noted in the vicinity (Figure 11). DEQ commented on this and the permittee explained that the painting area is scheduled to be relocated to the “Pole shed” area and acknowledged that improvements were needed to contain the paint. It appears that this will be addressed by the permittee within a reasonable amount of time. The final discharge did not appear to be discolored by the paint. The finished product is housed under roof prior to shipment off-site (Figure 12).

Figure 1. Drain in between kilns 5 and 6 leading to conveyance ditch.

Figure 2. Drainage ditch

Figure 3. Sediment Basin

Figure 4. Outfall 001 (and 901 during a rain event)

Figure 5. Lumber storage at entrance of facility (pre-kiln)

Figure 6. Storage pad, potential wet-decking site

Figure 7. Sprinkler that would be used for wet decking

Figure 8. Waxing area

Figure 9. Dip tank with kiln (background)

Figure 10. Hydraulic Fuel containment and adjacent spill kit (yellow barrel)

Figure 11. Paint Area and stacker (background)

Figure 12. Finished product under roof

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Piedmont Regional Office

UNSCHEDULED INSPECTION REPORT

FACILITY NAME:	Augusta Wood Products LC	**INSPECTOR:**	Charles Stitzer
PERMIT No.:	VA0090433	**INSPECTION DATE:**	5/10/07
TYPE OF FACILITY:	Industrial Minor	**TIME OF INSPECTION:**	1110 hrs to 1330 hours
COUNTY/CITY:	King William	**REPORT COMPLETED:**	5/17/07
REVIEWED BY:		**UNANNOUNCED INSPECTION:**	YES

PRESENT DURING INSPECTION: Robert Cason

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

Augusta Wood Products is a wood milling operation where hard and softwoods are prepared for wholesale. Some wood is milled and some logs are dressed, treated and sold whole. A large portion of the site is delegated to wood storage. Some of the wood receives minimal treatment, such as the application of fungicides, waxes and anti-staining agents.

Boiler blowdown, boiler water backwash and kiln condensate discharge to interior site ditches and mix with stormwater runoff and discharges at (001 – dry weather, 901 – wet weather). Sawdust created by the milling operation fuels the boiler. Therefore, there is little fugitive sawdust and wood debris around the site.

The site generally drains via sheet flow to the southwest. The facility's treatment units (BMPs) consists of a network of drainage ditches which intercept the sheet flow runoff and drains the site through a small (~20'X40') settling basin (aka the "mitigation pond").

The drainage ditches are currently in adequate condition, but the perimeter ditches are becoming overgrown with vegetation and could use some minor maintenance. Also, the operation of heavy equipment disturbs the soil's surface. Surface runoff transports this loosened soil into the ditches and shortens their effective life span due to increased sedimentation. Equipment traffic has also created low spots around the facility which become muddy following rain events. Some of these areas do not drain from the site, but remain as large mud puddles before they evaporate or sink into the ground.

The mitigation pond was created by damming off a section of a shallow ravine in which the discharge ditch flows. The "dam" consists of unconsolidated rock, concrete debris and soil. The dam is not 100% effective and a small amount of water appears to leak under the dam or perhaps resurfaces in the ditch at the base of the dam. This leakage does not present an environmental problem but may complicate obtaining quarterly dry weather discharge samples since it has no defined discharge structure (spillway or pipe) and samples must be obtained from a point in the creek several yards below the dam.

Some vehicle and machine maintenance is performed on site which requires the use of petroleum products. These petroleum products are located at various places around the site, usually under roof. In one area near the "mitigation pond" a waxy substance (Sealtite 60 Clear) is applied to the ends of logs. There was significant evidence of chemical spillage in this area.

EFFLUENT and FIELD DATA: Not obtained

Flow	MGD	**Dissolved Oxygen**	mg/L	**Contact Chlorine Residual**	mg/L
pH	SU	**Final Chlorine Res.**	mg/L	**Temperature**	°C

Calibration Time/Initials/documentation: NA

Condition of Outfall and Receiving Stream: There is no defined outfall. The intermittent creek below the mitigation pond's dam is little more than a drainage ditch. At the time of the inspection, it contained very shallow pools of slow moving, turbid water.

COMMENTS:

Items evaluated during this inspection include (check all that apply):

[X] Yes	[ ] No		Operational Units
[ ] Yes	[X] No		O & M Manual
[ ] Yes	[X] No		Maintenance Records
[ ] Yes	[ ] No	[X] N/A	Pathogen Reduction & Vector Attraction Reduction
[ ] Yes	[ ] No	[X] N/A	Sludge Disposal Plan
[ ] Yes	[X] No	[ ] N/A	Groundwater Monitoring Plan
[X] Yes	[ ] No	[ ] N/A	Storm Water Pollution Prevention Plan
[X] Yes	[ ] No	[ ] N/A	Permit Special Conditions
[X] Yes	[ ] No	[ ] N/A	Permit Water Quality Chemical Monitoring
[X] Yes	[ ] No	[ ] N/A	Laboratory Records

GENERAL RECOMMENDATIONS:

1) Maintain sampling results (COAs, DMRs,etc.) and documentation (instrument calibration, visual inspections, etc.) in a designated file or binder for easy access and reference.

2) Strive to perform stormwater sampling early in each quarter to insure that a qualifying event is captured during the quarter.

3) Improve mitigation pond (clear excess vegetation, modify "dam" to provide a discrete discharge point, maintain path to discharge point).

4) Store chemicals and oil under roof, if possible, and/or provide impermeable pads and secondary containment for potential leaks and spills.

5) Perform routine maintenance on drainage ditches to insure the system's continued effectiveness.

6) Try to maintain vegetative buffers between work and storage areas and drainage system.

7) Restrict equipment traffic to designated pathways, to the extent possible, to minimize site erosion and creation of fugitive dust.

8) Investigate possibility of eliminating the discharge of boiler blow down, boiler water supply backwash and kiln condensate to the stormwater collection system (this MAY make conversion to a general permit possible).

9) Install a rain gauge and record daily rainfall for use in the determination of appropriate runoff sampling.

10) Educate staff on the potential environmental impacts of the facility to raise general awareness of BMPs.

COMPLIANCE RECOMMENDATIONS/REQUEST FOR CORRECTIVE ACTION:

1) Update material inventory in SWPPP to list all process chemicals and petroleum products used at the site. (VA0090433, Part I Section D.2.c.3.

2) Eliminate spillage of wax (Sealtite 60) used to seal logs or prevent spilled wax from contact with stormwater runoff. Amend SWPPP to include BMPs designed to control spillage in this area, if appropriate. (VA0090433, Part I, Section D.4.b).

3) Obtain an approved pH meter so that pH sampling can be performed on-site and sampling holding time limitations can be met. Implement all necessary calibration, maintenance and records documentation. (VA0090433, Part II, Section A).

4) Immediately initiate and maintain documentation of quarterly visual and annual comprehensive inspections. (VA0090433 Part I Section C.5., and Part I Section D.4)

5) Take appropriate action to improve BMPs if test results and/or Annual Site Compliance Evaluation indicate their ineffectiveness. (VA0090433 Part I Section D.4.b)

6) When effluent limits are exceeded, submit a letter of explanation with your DMR, or record appropriate information on the "comment" section of the DMR. (VA0090433 Part II Section I.2.c)

Copies:

DEQ - OWPS (attn.: Steve Stell)
DEQ PRO Compliance File RR/L
Ron Arehart , Augusta Products

Table 1. Aboveground Storage Tanks
Augusta Wood Products, LC
~~St. Laurent Forest Products Company~~
West Point Sawmill
West Point, Virginia

AST/HR	Product Stored	Capacity (gallons)	Tank Construction	Location of AST/HR	
AST-1	diesel fuel	500	single-wall steel – horizontal	AST storage area	✓
AST-2	used oil	275	single-wall steel – horizontal	AST storage area	✓
HR-1	hydraulic oil	26.85	single-wall steel	AST storage area – sapstain tank	✓
HR-2	hydraulic oil	209.06	single-wall steel	Log Turner	✓
HR-3	hydraulic oil	21.64	single-wall steel	Resaw	✓
HR-4	hydraulic oil	49.87	single-wall steel	Debarker	✓
HR-5	hydraulic oil	109.93	single-wall steel	Berry Feed	✓
HR-6	hydraulic oil	70.24	single-wall steel	Set Works	✓
HR-7	hydraulic oil	24.31	single-wall steel	Gang	✓
HR-8	hydraulic oil	27.12	single-wall steel	Edger	✓
HR-9	hydraulic oil	347.87	single-wall steel	Sorter-Sawmill	✓
HR-10	hydraulic oil	338.27	single-wall steel	Stacker-Sawmill	✓
HR-11	hydraulic oil	72.18	single-wall steel	Breakdown	✓
HR-12	hydraulic oil	142.96	single-wall steel	Sorter-Planer	✓
HR-13	hydraulic oil	90.03	single-wall steel	Stacker-Planer	✓
~~HR-14~~	~~hydraulic oil~~	~~83.12~~	~~single-wall steel~~	~~Bender~~	X
	Total (gallons)	~~2388.45~~ 2305.33			

Sold

Attachment E. Effluent Data, MSTRANTI data source report, MSTRANTI, STATS results

Outfall 001 DMR data

	Quant Avg	Quant Max	Conc Avg	Conc Min	Conc Max	DMR Due Date
FLOW	0.0108	0.0108	NULL	NULL	NULL	10-Jul-06
(MGD)	0.0108	0.0108	NULL	NULL	NULL	10-Oct-06
	0.0108	0.0108	NULL	NULL	NULL	10-Mar-07
	0.0108	0.0108	NULL	NULL	NULL	10-Apr-07
	NULL	NULL	NULL	NULL	NULL	10-Jul-07
	0.0108	0.0108	NULL	NULL	NULL	10-Aug-07
	0.0108	0.0108	NULL	NULL	NULL	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	0.0108	0.0108	NULL	NULL	NULL	10-Jan-08
	0.0108	0.0108	NULL	NULL	NULL	10-Apr-08
	0.0108	0.0108	NULL	NULL	NULL	10-Jul-08
	0.0108	0.0108	NULL	NULL	NULL	10-Oct-08
	NULL	NULL	NULL	NULL	NULL	10-Jan-09
	0.0108	0.0108	NULL	NULL	NULL	10-Apr-09
	0.0108	0.0108	NULL	NULL	NULL	10-Jul-09
	0.0108	0.0108	NULL	NULL	NULL	10-Oct-09
	NULL	NULL	NULL	NULL	NULL	10-Jan-10
	0.0108	0.0108	NULL	NULL	NULL	10-Apr-10
	0.0108	0.0108	NULL	NULL	NULL	10-Jul-10
	0.0108	0.0108	NULL	NULL	NULL	10-Oct-10
pH	NULL	NULL	NULL	6.7	6.7	10-Jul-06
(SU)	NULL	NULL	NULL	7.1	7.1	10-Oct-06
	NULL	NULL	NULL	6.4	6.4	10-Mar-07
	NULL	NULL	NULL	6.4	6.4	10-Apr-07
	NULL	NULL	NULL	NULL	NULL	10-Jul-07
	NULL	NULL	NULL	9	9	10-Aug-07
	NULL	NULL	NULL	9.2	9.2	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	NULL	7.8	7.8	10-Jan-08
	NULL	NULL	NULL	7.6	7.6	10-Apr-08
	NULL	NULL	NULL	7.8	7.8	10-Jul-08
	NULL	NULL	NULL	X	9.85	10-Oct-08
	NULL	NULL	NULL	NULL	NULL	10-Jan-09
	NULL	NULL	NULL	9	9	10-Apr-09
	NULL	NULL	NULL	7.6	7.6	10-Jul-09
	NULL	NULL	NULL	9.7	9.7	10-Oct-09
	NULL	NULL	NULL	NULL	NULL	10-Jan-10
	NULL	NULL	NULL	6.8	6.8	10-Apr-10

	Quant Avg	Quant Max	Conc Avg	Conc Min	Conc Max	DMR Due Date
pH (SU)	NULL	NULL	NULL	8.9	8.9	10-Jul-10
	NULL	NULL	NULL	9	9	10-Oct-10
			10th Percentile max pH: 6.55			
			90th percentile max pH: 9.45			
TSS	NULL	NULL	4.3	NULL	4.3	10-Jul-06
(mg/L)	NULL	NULL	49	NULL	49	10-Oct-06
	NULL	NULL	3.3	NULL	3.3	10-Mar-07
	NULL	NULL	3.3	NULL	3.3	10-Apr-07
	NULL	NULL	NULL	NULL	NULL	10-Jul-07
	NULL	NULL	25	NULL	25	10-Aug-07
	NULL	NULL	49	NULL	49	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	9.3	NULL	9.3	10-Jan-08
	NULL	NULL	37.7	NULL	37.7	10-Apr-08
	NULL	NULL	83	NULL	83	10-Jul-08
	NULL	NULL	0.258	NULL	0.258	10-Oct-08
	NULL	NULL	NULL	NULL	NULL	10-Jan-09
	NULL	NULL	2.3	NULL	2.3	10-Apr-09
	NULL	NULL	17.8	NULL	17.8	10-Jul-09
	NULL	NULL	3.7	NULL	3.7	10-Oct-09
	NULL	NULL	NULL	NULL	NULL	10-Jan-10
	NULL	NULL	4	NULL	4	10-Apr-10
	NULL	NULL	19.4	NULL	19.4	10-Jul-10
	NULL	NULL	8	NULL	8	10-Oct-10
ZINC, DISSOLVED	NULL	NULL	43	NULL	43	10-Jul-06
(AS ZN)	NULL	NULL	39	NULL	39	10-Oct-06
	NULL	NULL	X	NULL	X	10-Apr-07
	NULL	NULL	NULL	NULL	NULL	10-Jul-07
	NULL	NULL	NULL	NULL	55	10-Aug-07
	NULL	NULL	X	NULL	85	10-Oct-07
	NULL	NULL	51	NULL	51	10-Nov-07
	NULL	NULL	31	NULL	31	10-Jan-08
	NULL	NULL	62	NULL	62	10-Apr-08
	NULL	NULL	52	NULL	52	10-Jul-08
	NULL	NULL	35	NULL	35	10-Oct-08
	NULL	NULL	NULL	NULL	NULL	10-Jan-09
	NULL	NULL	36	NULL	36	10-Apr-09

	Quant Avg	Quant Max	Conc Avg	Conc Min	Conc Max	DMR Due Date
ZINC, DISSOLVED	NULL	NULL	22	NULL	22	10-Jul-09
(AS ZN)	NULL	NULL	22	NULL	22	10-Oct-09
(UG/L)	NULL	NULL	NULL	NULL	NULL	10-Jan-10
	NULL	NULL	29.7	NULL	29.7	10-Apr-10
	NULL	NULL	68.3	NULL	68.3	10-Jul-10
	NULL	NULL	24.5	NULL	24.5	10-Oct-10
OIL & GREASE	NULL	NULL	5.6	NULL	5.6	10-Jul-06
(mg/L)	NULL	NULL	<5	NULL	<5	10-Oct-06
	NULL	NULL	<5	NULL	<5	10-Mar-07
	NULL	NULL	<5	NULL	<5	10-Apr-07
	NULL	NULL	NULL	NULL	NULL	10-Jul-07
	NULL	NULL	<10	NULL	<10	10-Aug-07
	NULL	NULL	29.1	NULL	48.2	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	<10	NULL	<10	10-Jan-08
	NULL	NULL	16.4	NULL	16.4	10-Apr-08
	NULL	NULL	<10	NULL	<10	10-Jul-08
	NULL	NULL	<.409	NULL	<.409	10-Oct-08
	NULL	NULL	NULL	NULL	NULL	10-Jan-09
	NULL	NULL	<10	NULL	<10	10-Apr-09
	NULL	NULL	<10	NULL	<10	10-Jul-09
	NULL	NULL	<10	NULL	<10	10-Oct-09
	NULL	NULL	NULL	NULL	NULL	10-Jan-10
	NULL	NULL	<10	NULL	<10	10-Apr-10
	NULL	NULL	<10	NULL	<10	10-Jul-10
	NULL	NULL	<10	NULL	<10	10-Oct-10

****

Application Data (EPA Form 2C)

Parameter	Max Daily Value Conc.	Units	# of samples
pH (Minimum)	8.2	SU	1
pH (Maximum)	8.2	SU	1
Flow Rate	942	gpd	1
BOD_5	5.3	mg/L	1
COD	26.9	mg/L	1
TOC	9.8	mg/L	1
TSS	7.3	mg/L	1
Ammonia	0.31	mg/L	1
Zinc, Total	0.0319	mg/L	1

****

Outfall 901 Effluent Data and storm water screening/benchmark value

DMR due date	Max Flow*	pH (SU)	TSS (mg/L)	Oil & Grease (mg/L)	Dissolved Zinc data (mg/l)
10 July 2006	0.0389 MGD	6.9	31	<5	0.034
10 January 2007	0.01405 MGD	7.2	8.6	<5	0.029
10 July 2007	0.01405 MGD	7.2	8.6	<5	0.029
10 November 2007	0.34992 MGD	7.55	20	<10	0.051
10 July 2008	0.31118 MGD	6.88	2.2	<10	0.046
10 July 2009	324 gallons/minute	6.8	7.1	<10	0.036
10 January 2010	324 gallons/minute	8.5	313	<10	0.1877
10 July 2010	432 gallons/minute	7.5	84.7	<10	0.053
Application Form 2F	0.077786 (MG)**	8.5	62.7	<5	0.0404
Screening Value	NA	6.0-9.0 SU	NA	NA	0.072 mg/L ж
Benchmark Value	NA	6.0-9.0 SU	100 mg/L	15 mg/L	0.120 mg/L ж

***** The permit specifies that flow monitoring for Outfall 901 (per measured storm water discharge event) should be reported as a volume in terms of million gallons (MG). However, flow has been reported on the DMRs as a rate in either MGD or gallons/minute. The permittee should aim for consistent reporting in future.

**Total volume of storm water discharge per application Form 2F sampled event

ж The dissolved zinc screening and benchmark value is calculated based on a conservative hardness of 25 mg/L $CaCO_3$

Form 2F storm water data (Storm event date: 1/26/2011)

Parameter	Reported Value
Oil and Grease	<5 mg/L
BOD_5	7.9 mg/L
COD	40.5 mg/L
TSS	62.7 mg/L
Total Nitrogen	1.1 mg/L
Total Phosphorus	0.24 mg/L
pH	8.5 SU
Zinc, dissolved	0.0404 mg/L

MSTRANTI DATA SOURCE REPORT

Stream information	
Mean Hardness	Same as effluent for discharge to dry ditch
90% Temperature (annual)	Same as effluent for discharge to dry ditch
90% Temperature (wet season)	NA
90% Maximum pH	Same as effluent for discharge to dry ditch
10% Maximum pH	Same as effluent for discharge to dry ditch
Tier Designation	Tier Determination
Stream Flows	
All Data	Flow Frequency Determination
Mixing Information	
All Data	Standard 100% for 0.0 MGD low flows
Effluent Information	
Hardness	Reissuance application (40 mg/l CaCO3)
90% Temperature (annual)	Default value absent of data (28^{o}C)
90% Maximum pH	Calculated from DMR data (9.45 SU)
10% Maximum pH	Calculated from DMR data (6.55 SU)
Discharge flow	DMR data (0.0108 MGD)

Data Location:

Flow Frequency Memo – Attachment A

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: American Hardwood Industries, LLC Permit No.: VA0090433

Receiving Stream: Herrick Creek, UT Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO3) =	40	mg/L	1Q10 (Annual) =	0	MGD	Annual - 1Q10 Mix =	100	%	Mean Hardness (as CaCO3) =	40	mg/L
90% Temperature (Annual) =	28	deg C	7Q10 (Annual) =	0	MGD	- 7Q10 Mix =	100	%	90% Temp (Annual) =	28	deg C
90% Temperature (Wet season) =	NA	deg C	30Q10 (Annual) =	0	MGD	- 30Q10 Mix =	100	%	90% Temp (Wet season) =	NA	deg C
90% Maximum pH =	9.45	SU	1Q10 (Wet season) =	0	MGD	Wet Season - 1Q10 Mix =	100	%	90% Maximum pH =	9.45	SU
10% Maximum pH =	6.55	SU	30Q10 (Wet season)	0	MGD	- 30Q10 Mix =	100	%	10% Maximum pH =	6.55	SU
Tier Designation (1 or 2) =	1		30Q5 =	0	MGD				Discharge Flow =	0.0108	MGD
Public Water Supply (PWS) Y/N? =	n		Harmonic Mean =	0	MGD						
Trout Present Y/N? =	n										
Early Life Stages Present Y/N? =	y										

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	5	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.9E+02**
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.3E+00**
Acrylonitrile [C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.5E+00**
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	**3.0E+00**	**--**	**na**	**5.0E-04**
Ammonia-N (mg/l) (Yearly)	0	1.32E+00	2.04E-01	na	--	1.32E+00	2.04E-01	na	--	--	--	--	--	--	--	--	--	**1.32E+00**	**2.04E-01**	**na**	**--**
Ammonia-N (mg/l) (High Flow)	0	1.32E+00	#VALUE!	na	--	1.32E+00	#VALUE!	na	--	--	--	--	--	--	--	--	--	**1.32E+00**	**#VALUE!**	**na**	**--**
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+04**
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.4E+02**
Arsenic	o	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	**3.4E+02**	**1.5E+02**	**na**	**--**
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.1E+02**
Benzidine [C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.0E-03**
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.3E+00**
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.5E+04**
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.2E+01**
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.4E+03**
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.9E+03**
Cadmium	0	1.4E+00	5.5E-01	na	--	1.4E+00	5.5E-01	na	--	--	--	--	--	--	--	--	--	**1.4E+00**	**5.5E-01**	**na**	**--**
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+01**
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	**2.4E+00**	**4.3E-03**	**na**	**8.1E-03**
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	**8.6E+05**	**2.3E+05**	**na**	**--**
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	**1.9E+01**	**1.1E+01**	**na**	**--**
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+03**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.3E+02**
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.1E+04**
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+03**
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.5E+02**
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	**8.3E-02**	**4.1E-02**	**na**	**--**
Chromium III	0	2.7E+02	3.5E+01	na	--	2.7E+02	3.5E+01	na	--	--	--	--	--	--	--	--	--	**2.7E+02**	**3.5E+01**	**na**	**--**
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	**1.6E+01**	**1.1E+01**	**na**	**--**
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-02**
Copper	0	5.7E+00	4.1E+00	na	--	5.7E+00	4.1E+00	na	--	--	--	--	--	--	--	--	--	**5.7E+00**	**4.1E+00**	**na**	**--**
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	**2.2E+01**	**5.2E+00**	**na**	**1.6E+04**
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.1E-03**
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.2E-03**
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	**1.1E+00**	**1.0E-03**	**na**	**2.2E-03**
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	**--**	**1.0E-01**	**na**	**--**
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	**1.7E-01**	**1.7E-01**	**na**	**--**
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.3E+03**
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.6E+02**
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.9E+02**
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.8E-01**
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.7E+02**
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.7E+02**
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.1E+03**
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.0E+04**
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.9E+02**
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.5E+02**
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.1E+02**
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	**2.4E-01**	**5.6E-02**	**na**	**5.4E-04**
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.4E+04**
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**8.5E+02**
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.1E+06**
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.5E+03**
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.3E+03**
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.8E+02**
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.4E+01**
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.1E-08**
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.0E+00**
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	**2.2E-01**	**5.6E-02**	**na**	**8.9E+01**
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	**2.2E-01**	**5.6E-02**	**na**	**8.9E+01**
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	**2.2E-01**	**5.6E-02**	**--**	**--**
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**8.9E+01**
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	**8.6E-02**	**3.6E-02**	**na**	**6.0E-02**
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E-01**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.1E+03**
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.4E+02**
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.3E+03**
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	**--**	**1.0E-02**	**na**	**--**
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	**na**	**7.9E-04**
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	**na**	**3.9E-04**
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.9E-03**
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E+02**
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.9E-02**
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.7E-01**
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	**9.5E-01**	**--**	**na**	**1.8E+00**
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.1E+03**
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	**--**	**2.0E+00**	**na**	**--**
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.6E+03**
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	**--**	**0.0E+00**	**na**	**--**
Lead	0	3.7E+01	4.2E+00	na	--	3.7E+01	4.2E+00	na	--	--	--	--	--	--	--	--	--	**3.7E+01**	**4.2E+00**	**na**	**--**
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	**--**	**1.0E-01**	**na**	**--**
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Mercury	0	1.4E+00	7.7E-01	- -	- -	1.4E+00	7.7E-01	- -	- -	--	--	--	--	--	--	--	--	**1.4E+00**	**7.7E-01**	**- -**	**- -**
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.5E+03**
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.9E+03**
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	**--**	**3.0E-02**	**na**	**--**
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	**--**	**0.0E+00**	**na**	**--**
Nickel	0	8.4E+01	9.3E+00	na	4.6E+03	8.4E+01	9.3E+00	na	4.6E+03	--	--	--	--	--	--	--	--	**8.4E+01**	**9.3E+00**	**na**	**4.6E+03**
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.9E+02**
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+01**
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+01**
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.1E+00**
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	**2.8E+01**	**6.6E+00**	**na**	**--**
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	**6.5E-02**	**1.3E-02**	**na**	**--**
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	**--**	**1.4E-02**	**na**	**6.4E-04**
Pentachlorophenol [C]	0	5.5E+00	4.3E+00	na	3.0E+01	5.5E+00	4.3E+00	na	3.0E+01	--	--	--	--	--	--	--	--	**5.5E+00**	**4.3E+00**	**na**	**3.0E+01**
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**8.6E+05**
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+03**
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+00**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	7.1E-01	--	na	--	7.1E-01	--	na	--	--	--	--	--	--	--	--	--	**7.1E-01**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	5.4E+01	5.4E+01	na	2.6E+04	5.4E+01	5.4E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**5.4E+01**	**5.4E+01**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.3E-01
Chromium III	2.1E+01
Chromium VI	6.4E+00
Copper	2.3E+00
Iron	na
Lead	2.5E+00
Manganese	na
Mercury	4.6E-01
Nickel	5.6E+00
Selenium	3.0E+00
Silver	2.9E-01
Zinc	2.2E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Stats.exe Results

Facility = American Hardwood Industries, LLC- West Point Chemical = Zinc, dissolved Chronic averaging period = 4 WLAa = 54 WLAc = 54 Q.L. = 3.6 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 16 Expected Value = 45.1591 Variance = 384.656 C.V. = 0.434301 97th percentile daily values = 90.5311 97th percentile 4 day average = 66.0834 97th percentile 30 day average= 51.8945 # < Q.L. = 0 Model used = lognormal A limit is needed based on Acute Toxicity Maximum Daily Limit = 54 Average Weekly limit = 54 Average Monthly Limit = 54 The data are 43 µg/l 39 µg/l 62 µg/l 55 µg/l 85 µg/l 51 µg/l 31 µg/l 62 µg/l 52 µg/l 35 µg/l 36 µg/l 22 µg/l 22 µg/l 29.7 µg/l 68.3 µg/l 24.5 µg/l Dissolved zinc data, derived from DMR reports (monitoring only) were used to determine the need for a Zinc limitation. This is a new permit limitation and a compliance schedule is afforded.	Facility = American Hardwood Industries, LLC- West Point Chemical = Zinc, Total Chronic averaging period = 4 WLAa = 54 WLAc = 54 Q.L. = 3.6 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 31.9 Variance = 366.339 C.V. = 0.6 97th percentile daily values = 77.6260 97th percentile 4 day average = 53.0749 97th percentile 30 day average= 38.4730 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data A limit is needed based on Acute Toxicity Maximum Daily Limit = 54 Average Weekly limit = 54 Average Monthly LImit = 54 The data are: 31.9 µg/l (Form 2C, application) During the 2006 permit reissuance, the potential need for a zinc limitation was identified via a value of 58 µg/l reported on the application. This dissolved data point indicated a limit was needed to be protective of water quality standards. Dissolved zinc monitoring was introduced into the 2006 permit to allow reevaluation of the parameter during the 2011 reissuance against the standard (expressed in dissolved form). The above stats analysis was run on the total zinc data point reported in the 2011 reissuance application. The need for a limitation was confirmed using the dissolved zinc DMR data (see left).

Facility = American Hardwood Industries LLC- West Point Chemical = Ammonia Chronic averaging period = 30 WLAa = 1.32 WLAc = 0.204 Q.L. = 0.2 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = .31 Variance = .034596 C.V. = 0.6 97th percentile daily values = .754359 97th percentile 4 day average = .515774 97th percentile 30 day average= .373876 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data A limit is needed based on Chronic Toxicity Maximum Daily Limit = 0.411604699056927 Average Weekly limit = 0.411604699056927 Average Monthly Limit = 0.411604699056927 The data are: 0.31 mg/l An effluent ammonia concentration of 0.31 mg/l was reported on application form 2C. A reasonable potential analysis indicates that a limitation is needed. This is a new permit limitation and a compliance schedule is afforded.	

Attachment F. NPDES Permit Rating Worksheet

NPDES PERMIT RATING WORK SHEET

☐Regular Addition
☐Discretionary Addition
☒Score change, but no status change
☐Deletion

NPDES NO. VA0090433

Facility Name: American Hardwood Industries, LLC- Augusta Lumber Division, West Point Mill

City: West Point, VA

Receiving Water: UT to Herrick Creek

Reach Number:

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?		*Is this permit for a municipal separate storm sewer serving a population greater than 100,000?*
1. Power output 500 MW or greater (not using a cooling pond/lake) 2. A nuclear power plant 3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate ☐ YES; score is 600 (stop here) ☒ NO (continue)		☐YES; score is 700 (stop here) ☒NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: Primary SIC Code: 2421 Other SIC Codes: 2411
Industrial Subcategory Code: 3 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐No process waste streams	0	0	☐ 3.	3	15	☐ 7.	7	35
☒ 1.	1	5	☐ 4.	4	20	☐ 8.	8	40
☐2.	2	10	☐ 5.	5	25	☐ 9.	9	45
			☐6.	6	30	☐ 10.	10	50

Code Number Checked: 1

Total Points Factor 1: 5

FACTOR 2: Flow/Stream Flow Volume (*Complete either Section A or Section B; check only one)*

Section A X Wastewater Flow Only Considered

Wastewater Type (See Instructions)		Code	Points
Type I: Flow < 5 MGD	☐	11	0
Flow 5 to 10 MGD	☐	12	10
Flow > 10 to 50 MGD	☐	13	20
Flow > 50 MGD	☐	14	30
Type II: Flow < 1 MGD	☒	21	10
Flow 1 to 5 MGD	☐	22	20
Flow > 5 to 10 MGD	☐	23	30
Flow > 10 MGD	☐	24	50
Type III: Flow < 1 MGD	☐	31	0
Flow 1 to 5 MGD	☐	32	10
Flow > 5 to 10 MGD	☐	33	20
Flow > 10 MGD	☐	34	30

Section B ☐ Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	☐	41	0
	10 % to < 50 %	☐	42	10
	> 50 %	☐	43	20
Type II:	< 10 %	☐	51	0
	10 % to <50 %	☐	52	20
	> 50 %	☐	53	30

Code Checked from Section A or B: 21
Total Points Factor 2: 10

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) ☐ BOD ☐ COD ☐ Other:_____

Permit Limits: (check one)		Code	Points
☐	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	> 1000 to 3000 lbs/day	3	15
☐	> 3000 lbs/day	4	20

Code Checked: _NA____

Points Scored:__NA____

B. Total Suspended Solids (TSS)

Permit Limits: (check one)		Code	Points
☒	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	> 1000 to 5000 lbs/day	3	15
☐	> 5000 lbs/day	4	20

21.6 mg/L avg. max (2006-2010)
@ 0.0108 MGD flow
= 1.94 lbs/day

Code Checked: _1____

Points Scored: __0___

C. Nitrogen Pollutant: (check one) ☒ Ammonia ☐ Other: ____ _____

Permit Limits: (check one)		Nitrogen Equivalent	Code	Points
☒	< 300 lbs/day	1	0	
☐	300 to 1000 lbs/day	2	5	
☐	> 1000 to 3000 lbs/day	3	15	
☐	> 3000 lbs/day	4	20	

0.412 mg/l (permit limit)@ 0.0108MGD
= 0.037 lbs/day

Code Checked: _1____

Points Scored:__0____

Total Points Factor 3: _0____

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☐YES (If yes, check toxicity potential number below)

☒ NO (If no, go to Factor 5)

Determine the *human health* toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column ☐ check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	☐ 7.	7	15
☐ 1.	1	0	☐4.	4	0	☐ 8.	8	20
☐2.	2	0	☐5.	5	5	☐9.	9	25
			☐6.	6	10	☐ 10.	10	30

Code Number Checked: _NA____

Total Points Factor 4:_0____

FACTOR 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge:

		Code	Points
☒	Yes	1	10
☐	No	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

		Code	Points
☒	Yes	1	0
☐	No	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

		Code	Points
☐	Yes	1	10
☒	No	2	0

Code Number Checked: A 1 B 1 C 2

Points Factor 5: A 10 + B 0 + C 0 = **10** TOTAL

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): 21

Enter the multiplication factor that corresponds to the flow code: 0.10

Check appropriate facility HPRI Code (from PCS):

	HPRI#	*Code*	*HPRI Score*
☐	1	1	20
☐	2	2	0
☒	3	3	30
☐	4	4	0
☐	5	5	20

HPRI code checked: 3

Flow Code	*Multiplication Factor*
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

Base Score: (HPRI Score) 30 X (Multiplication Factor) 0.10 = **3** (TOTAL POINTS)

B. Additional Points ☐ NEP Program
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
☒ Yes	1	10
☐ No	2	0

C. Additional Points ☐ Great Lakes Area of Concern
For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)

	Code	Points
☐ Yes	1	10
☒ No	2	0

Code Number Checked: A 3 B 1 C 2

Points Factor 6: A 3 + B 10 + C 0 = **13** TOTAL

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	5
2	Flows/Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	13
	TOTAL (Factors 1 through 6)	38

S1. Is the total score equal to or greater than 80? ☐ Yes (Facility is a major) ☒ No

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ No

☐ Yes (Add 500 points to the above score and provide reason below:

Reason:

NEW SCORE: 38

OLD SCORE: 28

Janine Howard
Permit Reviewer's Name

(804) 527-5046
Phone Number

January 31, 2011
Date

Attachment G. Threatened and Endangered Species coordination documentation

Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

WebID: W634317230348593750

Client Project Number: VA0090433

PROJECT INFORMATION

TITLE: American Hardwood Industries, LLC VPDES renewal

DESCRIPTION: Reissuance of VPDES Permit No. VA0090433

EXISTING SITE CONDITIONS: Discharge to UT of Herrick Creek

QUADRANGLES: WEST POINT

COUNTIES: King William

Latitude/Longitude (DMS): 373422/765037

Acreage:

Comments: The discharge is to a dry ditch. End of pipe limits are required by the permit as no mixing zone is allowed.

REQUESTOR INFORMATION

Priority: No Tier Level: 2 Tax ID:

Contact Name: Janine Howard

Company Name: DEQ-Piedmont Regional Office

Address: 4949A Cox Road

City: Glen Allen State: VA Zip: 23060

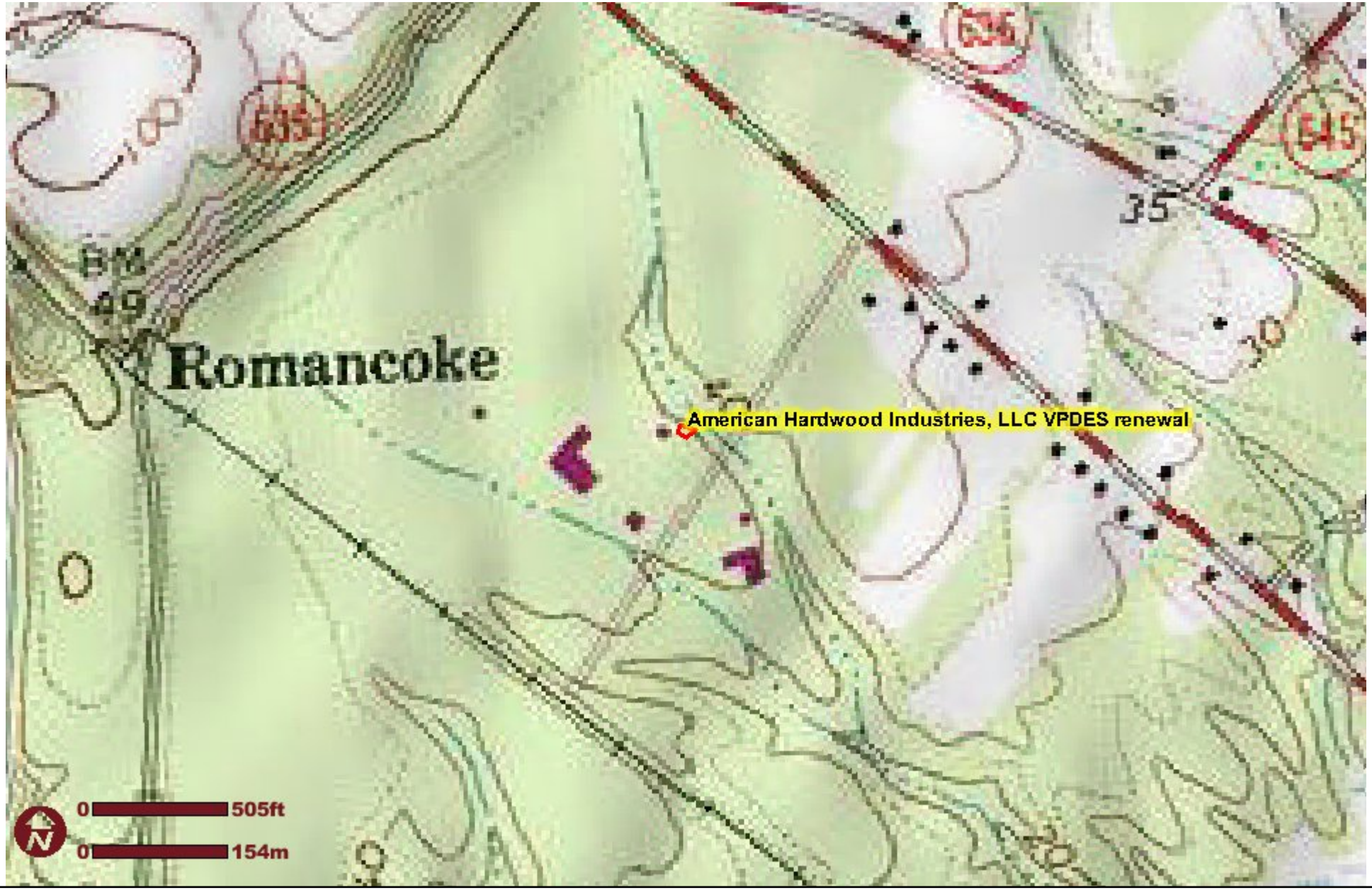
Phone: 8045275046 Fax: 8045275106 Email: janine.howard@deq.virginia.gov

Conservation Site Name	Site Type	Brank	Acreage	Listed Species Presence
LEE MARSH	Conservation Site	B4	1,540	NL
OLSSONS POND HABITAT ZONE	Conservation Site	B5	324	SL
MUDDY POINT HABITAT ZONE	Conservation Site	B5	372	SL
PAMUNKEY TRIBUTARY HABITAT ZONE	Conservation Site	B5	195	SL
HILL MARSH	Conservation Site	B4	1,633	SL
LOWER MATTAPONI RIVER MARSHES	Conservation Site	B2	2,600	FL

Natural Heritage Conservation Sites within Search Radius

Site-Name	Group-Name	common-name	scientific-name	GRANK	SRANK	Fed Status	st status	EO Rank	last obs date	precision
COUSIAC MARSH	Natural Community	Tidal Freshwater Marsh	Tidal Freshwater Marsh	G4?	SNR			A	2006-09-27	S
LEE MARSH	Natural Community	Tidal Oligohaline Marsh	Tidal Oligohaline Marsh	G4	SNR			A	1992-08-03	S
MUDDY POINT HABITAT ZONE	Vertebrate Animal	Bald Eagle	Haliaeetus leucocephalus	G5	S2S3B,S3N		LT	E	2002-	S
OLSSONS POND HABITAT ZONE	Vertebrate Animal	Bald Eagle	Haliaeetus leucocephalus	G5	S2S3B,S3N		LT	D	1992-	S
OLSSONS POND HABITAT ZONE	Vertebrate Animal	Bald Eagle	Haliaeetus leucocephalus	G5	S2S3B,S3N		LT	E	2001-	
PAMUNKEY TRIBUTARY HABITAT ZONE	Vertebrate Animal	Bald Eagle	Haliaeetus leucocephalus	G5	S2S3B,S3N		LT	E	2001-	

Natural Heritage Resources within Search Radius



Quads: WEST POINT

Counties: King William

American Hardwood Industries, LLC VPDES renewal

Company: DEQ-Piedmont Regional Office

Lat/Long: 373422/765037

Douglas W. Domenech
Secretary of Natural Resources

David A. Johnson
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

The project mapped as part of this report has been searched against the Department of Conservation and Recreation's Biotics Data System for occurrences of natural heritage resources from the area indicated for this project. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in Biotics files, NATURAL HERITAGE RESOURCES HAVE BEEN DOCUMENTED within two miles of the indicated project boundaries.

You have submitted this project to DCR for a more detailed review for potential impacts to natural heritage resources. DCR will review the submitted project to identify the specific natural heritage resources in the vicinity of the proposed project. Using the expertise of our biologists, DCR will evaluate whether your specific project is likely to impact these resources, and if so how. DCR's response will indicate whether any negative impacts are likely and, if so, make recommendations to avoid, minimize and/or mitigate these impacts. If the potential negative impacts are to species that are state- or federally-listed as threatened or endangered, DCR will also recommend coordination with the appropriate regulatory agencies: the Virginia Department of Game and Inland Fisheries for state-listed animals, the Virginia Department of Agriculture and Consumer Services for state-listed plants and insects, and the United States Fish and Wildlife Service for federally listed plants and animals. If your project is expected to have positive impacts we will report those to you with recommendations for enhancing these benefits.

Please allow up to 30 days for a response.

We will review the project based on the information you included in the Project Info submittal form, which is included in the report that follows. Often additional information can help us make a more accurate and detailed assessment of a project's potential impacts to natural heritage resources. If you have additional information that you believe will help us better assess your project's potential impacts, you may send that information to us. Please refer to the project Title (from the first page of this report) and include this pdf file with any additional information you send us.

Thank you for submitting your project for review to the Virginia Natural Heritage Program through the NH Data Explorer. Should you have any questions or concerns about DCR, the Data Explorer, or this report, please contact the Natural Heritage Project Review Unit at 804-371-2708.
its.

Douglas W. Domenech
Secretary of Natural Resources

David A. Johnson
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Division of Natural Heritage
217 Governor Street
Richmond, Virginia 23219-2010
(804) 786-7951

February 18, 2011

Janine Howard
DEQ – Piedmont Regional Office
4949A Cox Road
Glen Allen, VA 23060

Re: VA0090433, American Hardwood Industries, LLC VPDES Renewal

Dear Ms. Howard:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, this site is located in the project vicnity of the Olssons Pond Conservation Site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Olssons Pond Conservation Site has been given a biodiversity significance ranking of B5, which represents a site of general biodiversity. The natural heritage resource of concern at this site is:

Haliaeetus leucocephalus	Bald eagle	G5/S2S3B,S3N/NL/LT

The Bald eagle breeds from Alaska eastward through Canada and the Great Lakes region, along coastal areas off the Pacific and Atlantic Oceans, and the Gulf of Mexico, and in pockets throughout the western United States (NatureServe, 2009). In Virginia, it primarily breeds along the large Atlantic slope rivers (James, Rappahannock, Potomac, etc) with a few records at inland sites near large reservoirs (Byrd, 1991). Bald eagle nest sites are often found in the midst of large wooded areas near marshes or other bodies of water (Byrd, 1991). Bald eagles feed on fish, waterfowl, seabirds (Campbell et. al., 1990), various mammals and carrion (Terres, 1980). Please note that this species is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

Threats to this species include human disturbance of nest sites (Byrd, 1991), habitat loss, biocide contamination, decreasing food supply and illegal shooting (Herkert, 1992).

DCR recommends contacting the Center for Conservation Biology at the College of William and Mary, phone: 757.221.1645 or email: conbio@wm.edu.to obtain updated bald eagle information. If bald eagle nests are identified within .25 miles of the project area, DCR also recommends coordination with VDGIF to ensure compliance with protected species legislation."

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

Our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Shirl Dressler at (804) 367-6913.

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

Alli Baird

Alli Baird, LA, ASLA
Coastal Zone Locality Liaison

CC: Amy Ewing, VDGIF

Literature Cited

Byrd, M.A. 1991. Bald eagle. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia. Pp. 499-501.

Campbell, R.W., N.K. Dawe, I. McTaggart-Cowan, J.M. Cooper, G.W. Kaiser, and M.C.E. McNall. 1990. The Birds of British Columbia. Vol. 1. Nonpasserines: Introduction and loons through waterfowl. Royal British Columbia Museum, Victoria, British Columbia, Canada.

Herkert, J. R., editor. 1992. Endangered and threatened species of Illinois: status and distribution. Vol. 2: Animals. Illinois Endangered Species Protection Board. iv + 142 pp.

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: June 24, 2010)

Terres, J.K. 1980. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York.

VA0090433 - T&E Coordination

Virginia Department of Game and Inland Fisheries

3/28/2011 4:41:08 PM

Fish and Wildlife Information Service

VaFWIS Search Report Compiled on 3/28/2011, 4:41:08 PM 331535.0 **Help**

Known or likely to occur within a **2 mile radius of null**
(at 37,34,21.9 76,50,37.0)
in **097 King and Queen County, 101 King William County, 127 New Kent County, VA**

301 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 20) (12 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
040129	ST	I	Sandpiper, upland	Bartramia longicauda		BOVA
040379	ST	I	Sparrow, Henslow's	Ammodramus henslowii		BOVA
040093	FSST	II	Eagle, bald	Haliaeetus leucocephalus	Yes	Collections,BECAR,BOVA,HU6
040110		I	Rail, black	Laterallus jamaicensis		BOVA
040225		I	Sapsucker, yellow-bellied	Sphyrapicus varius		BOVA
040319		I	Warbler, black-throated green	Dendroica virens		BOVA
010032		II	Sturgeon, Atlantic	Acipenser oxyrinchus	Potential	Habitat,BOVA,HU6
040052		II	Duck, American black	Anas rubripes		BOVA,HU6
040029		II	Heron, little blue	Egretta caerulea caerulea		BOVA
040105		II	Rail, king	Rallus elegans	Potential	Habitat,BOVA,HU6
040320		II	Warbler, cerulean	Dendroica cerulea		BOVA,HU6
040266		II	Wren, winter	Troglodytes troglodytes		BOVA

Attachment H. Groundwater Data Evaluation and Groundwater Monitoring Plan (Approved 2/24/2003)

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road, Glen Allen, VA 23060-6296 **804/527-5020**

SUBJECT: American Hardwood Industries, LLC- Augusta Lumber Division, West Point Mill Groundwater Evaluation

TO: File

FROM: Janine Howard

DATE: March 10, 2011, revised August 19, 2011

Process and Background:

American Hardwood Industries, LLC- Augusta Lumber Division, West Point Mill is located in King William County, Virginia. The facility is a sawmill and lumber drying operation. Boiler blowdown generates a non-process wastewater. The site has a drainage ditch network which directs stormwater runoff from the buildings, parking lots, and log storage areas to the sedimentation basin. In addition to stormwater, the boiler blowdown also enters these drainage ditches and ultimately drains to the sediment basin. The discharge exits the sedimentation basin via Outfall 001. During a storm event this outfall is referred to as Outfall 901. See the site visit report for further details regarding the process and site setup. The facility is located in the Coastal Plain Physiographic Province for which there are specific standards (9VAC25-280-50) and criteria (9VAC25-280-70). Virginia also has groundwater standards that are applicable statewide (9VAC25-280-40). The Antidegradation policy for groundwater (9VAC 25-280-30) requires that the natural quality for all groundwater constituents shall be maintained. This means that in addition to constituents that are assigned numeric criteria in the groundwater standards, the policy also applies to constituents that are not specifically identified or assigned a numeric groundwater standard.

The groundwater monitoring plan was approved in February 2003; there are two monitoring wells in the plan. MW-1, located northwest of the sedimentation basin, is the up-gradient well. MW-2 is located southeast of the sedimentation basin (approximately 10 feet from Outfall 001) and is hydraulically down-gradient of the basin. Groundwater is monitored semi-annually. Parameters monitored and reported are: static water level, chloride, total dissolved solids (TDS), total organic carbon (TOC), pH, total phosphorus (TP), and specific conductivity.

Monitoring data from 2001- 2010 were available for evaluation. In early 2008 DEQ was in contact with the facility regarding exceedances of the groundwater standard. Environmental Technology and Consulting, Inc. was hired by the permittee to review the groundwater data and potentially aid in development of the Corrective Action Plan (CAP) that was required by the 2006 permit. It was determined that due to incorrect sampling protocol, the analytical data derived from past sampling events may not be a true representation of groundwater on site. The consulting firm developed a "Groundwater Well Sampling Protocol" for the facility and DEQ allowed the submittal of a CAP to be delayed pending further sampling results. Due to the concerns regarding the collection of samples and the accuracy of data prior to 2008, data collected prior to 2008 is not used in this evaluation. Due to the semiannual monitoring schedule, only five data points for each parameter were available for analysis once the data prior to 2008 was omitted. This is not a statistically

significant dataset however for reference purposes a statistical evaluation was conducted. More data is required to draw statistically significant conclusions.

The dataset was evaluated for normality using the DEQ Piedmont Regional Office, Groundwater Analysis Spreadsheet which employs the Kolmorogov-Smirnov Test of Normality to make the determination. A Non-Parametric test was used to evaluate the presence or absence of a significant difference between the background concentrations and down gradient concentrations of each pollutant for non-normal data; Student's t-test was used to evaluate normally distributed data. Table 1 summarizes the groundwater data distribution type. Table 2 displays the results of statistical analysis to determine significant differences in pollutant concentrations at the up-gradient and down-gradient well. See Tables A.1- A.2 for the raw data for each well, a calculated average value for each pollutant, and applicable groundwater criterion. Linear regression analysis (Table A.4 - A.9) was used to analyze whether there is a trend in groundwater concentration of particular parameters by means of a coefficient of determination (R^2). A R^2 value of close to 1.0 is an indication of a strong trend.

Table 1. Summary of Groundwater Data Distribution Type

Parameter	**MW-2**
pH	Non-normal
Specific Conductivity	Non-normal
TDS	Non-normal
TOC	Normal
Chlorides	Normal
Total Phosphorus	Normal

Table 2. Summary of Groundwater Data Analysis

Parameter	**Significant Difference from up-gradient well (MW-1) at MW-2?**
pH	YES
Specific Conductivity	YES
TDS	YES
TOC	NO
Chlorides	NO
Total Phosphorus	NO

pH:
The groundwater criterion for pH in the Coastal Plain physiographic province is 6.5-9.0 SU. The average pH at the up-gradient well was 6.8 SU. The down-gradient well had an average pH of 7.3 SU. A significant difference in pH was found at MW-2. While the down-gradient well does exhibit more basic pH values as compared to the up-gradient well, the pH values are not in violation of the numeric groundwater criteria. The coefficient for determination for pH at MW-2 was 0.6206, indicating a slight positive trend in pH values over time. The antidegradation policy for groundwater (9VAC 25-280-30) requires that the natural quality of a groundwater constituent be maintained. The positive trend in pH, indicative of more basic down-gradient conditions, suggests that the facility may be in alleged non-conformance with the antidegradation policy in the groundwater standards. Continued monitoring of pH is necessary to obtain a statistically significant dataset.

Specific Conductivity:
There are no numeric groundwater criteria for specific conductivity. A significant difference was found for this parameter between the up-gradient and down-gradient well. Table A.4 indicates no identifiable trend in concentration of this parameter over time at MW-1 and MW-2. The average

specific conductance at MW-1 was 316 millimhos/cm and was 619 millimhos/cm at MW-2. Specific conductivity is an indication of ions in the groundwater and is suggestive of the presence of other pollutants such as chlorides, nitrates, phosphates and sodium in the groundwater. The increased specific conductance at the down-gradient well is an indication of elevated concentrations of pollutants in the groundwater down-gradient of the sedimentation basin, relative to the ionic concentration of groundwater up-gradient of the sedimentation basin. This suggests that that facility may be in alleged non-conformance with the antidegradation policy for groundwater for this parameter. Continued monitoring is required to obtain a statistically significant dataset.

Total Dissolved Solids (TDS):
Statistical analysis indicated a significant difference in TDS concentrations at the down-gradient wells. The TDS groundwater quality criterion is 1,000 mg/L. The average TDS concentration at the background well was 328 mg/L and 559 mg/L at MW-2. TDS is clearly elevated at the down-gradient well but is below the numeric standard. Linear regression analysis indicates no trend in TDS concentration over time at the two wells (Table A.5). Elevated total dissolved solids in the down-gradient well water are likely linked to the high specific conductance of the water at the down-gradient location and are an indication that the facility may be in alleged non-conformance with the antidegradation policy for groundwater. Continued monitoring for this parameter is recommended to obtain a statistically significant dataset.

Total Organic Carbon (TOC):
The TOC groundwater criterion is 10 mg/L. The average concentration at MW-1 and MW-2 is 9.6 and 19.7 mg/L respectively. TOC at the down-gradient well is in excess of the groundwater criteria and the average down-gradient TOC concentration is approximately twice that at the up-gradient well. The elevated down gradient TOC concentrations inidcate that the facility may be in alleged non-conformance with the antidegradation policy for groundwater for this parameter. Statistical analysis indicated there was not a significant difference between the up-gradient and down-gradient wells. For the most recent three reporting periods, given in Table A.1, the up-gradient well has exhibited TOC concentrations above the groundwater criteria. Linear regression analysis (Table A.6) indicates a relatively strong positive trend in TOC concentration over time at MW-1 and a weaker one at MW-2. This would suggest there may be groundwater contamination at the up-gradient well, due to the apparent increasing trend in TOC concentration over time at MW-1.

In the 2009 DEQ inspection, conducted by Charlie Stitzer, it was noted that significant chemical spillage of the Sealtite 60 Clear had occurred north of the sedimentation pond (near MW-1). The American Hardwood Industries, LLC environmental manager informed DEQ that, at the time of the inspection, wax was applied to the lumber at this location. As a result of the inspection, the facility moved the wax area to a new location, across the road from the dip tank. The wax is now kept in a defined area, dedicated to wax application, and containment is in place. The waxing process is a potential source of increased TOC in the groundwater at the up-gradient well. Now that the potential source has been relocated, the TOC at the up-gradient well may stabilize over time. Continued monitoring is necessary to make this determination.

Chloride:
The chloride water quality criterion for the Coastal Plain Physiographic Province is 50 mg/L. Statistical analysis indicated no significant difference in chloride concentrations at the down-gradient well. The average up-gradient concentration was 6.8 mg/L while it was greater at the down-gradient location, MW-2 (15.0 mg/L). The average chloride values do not exceed the numeric water quality criteria; however, the elevated chloride concentrations at MW-2 indicate that the facility may be in alleged non-conformance with the antidegradation policy for groundwater. The linear regression analysis of chloride does show a distinct positive trend at MW-1 and no trend at MW-2 (Table A.7). The material spill (discussion above) may have contributed to the positive trend at the up-gradient well. Continued monitoring is required to obtain a statistically significant data set.

Total Phosphorus:
There is no numeric groundwater criterion for phosphorus. A significant difference in phosphorus concentrations at the down-gradient well was not identified in this evaluation. The average phosphorus groundwater concentration is 1.06 mg/L at the down-gradient well and 0.59 mg/L at the up-gradient well, an indication of alleged non-conformance with the antidegradation policy for groundwater. Linear regression analysis (Table A.8) indicated a weak positive trend in phosphorus at the down-gradient well. Continued monitoring is required to obtain a statistically significant dataset.

Summary and Recommendation:
The TOC concentration at the down-gradient well is in alleged violation of the numeric groundwater criterion; all other parameters, at the up-gradient and down-gradient wells, do not exceed the numeric groundwater criteria given in 9VAC 25-280-40 and 9VAC 25-280-50. An increase in specific conductance at the down-gradient well is an indication of greater ions in the groundwater down gradient of the sedimentation basin. Average TDS, TOC, chloride, and phosphorus concentrations are greater at the down-gradient well as compared to the up-gradient well. More basic pH values are also found at the down-gradient well. Continued monitoring of all of the parameters is required to obtain a statistically significant dataset.

The permit application reports an effluent TOC concentration of 9.8 mg/L; the groundwater criterion for TOC is 10 mg/L; therefore, it is reasonable to conclude that the settling basin has the potential to contribute to groundwater contamination with regard to TOC. The relatively high TOC concentrations at both wells may be impacted by the TOC in the effluent.

The 2006 permit required the submittal of a Corrective Action Plan (CAP). A CAP was never received and exceedances of groundwater criterion were attributed to improper sampling techniques. While this may have caused some distorted numbers, since 2008 the facility should have eradicated this issue. TOC continues to be in excess of the numeric groundwater criterion at the down-gradient well and a significant difference in pH, specific conductivity, and TDS at the down-gradient well resulted from statistical analysis in this evaluation. For each of the monitored parameters there is evidence of alleged non-conformance with the antidegradation policy for groundwater.

Due to the lack of a statistically significant dataset available for analysis during this reissuance a Corrective Action Plan is not requested at this time. The 2011 permit requires the submittal of a revised groundwater monitoring plan. This plan will require the establishment and installation of additional monitoring wells and sampling protocols to adequately capture, monitor, and facilitate a defensible evaluation of the source, extent and direction of the ground water contaminant plume down-gradient from the sedimentation pond and associated industrial activities. A number of additional parameters are required to be monitored based on DEQ guidance (GM 98-2010). In addition, dissolved zinc and ammonia-N shall be added to the plan based on aquatic toxicity concerns related to the presence of these constituents in the effluent, both of which have numeric groundwater criteria. The revised monitoring frequency shall be quarterly at minimum. Refer to Part I.B.7 of the permit.

Appendix

Note: “SA” = semi-annual

Table A.1. MW-1 raw groundwater data

Date	pH (SU)	Specific Conductivity (millimhos/cm)	TDS (mg/L)	TOC (mg/L)	Chloride (mg/L)	Total Phosphorus (mg/L)	Static Water Level (inches)
1SA 2008	8.1	475	685	3.6	2.2	0.08	8.71
1SA 2009	6.5	224	116	7.1	3.7	1.35	8.3
2SA 2009	5.9	319	214	10.9	9.4	0.14	7
1SA 2010	6.4	297	272	15.1	11.8	0.46	8
2SA 2010	7	263	355	11.3	Not available	0.92	9
Average	6.8	316	328	9.6	6.8	0.59	8.2
Groundwater Standard	6.5-9	None	1000	10	50	None	None

Table A.2. MW-2 raw groundwater data

Date	pH (SU)	Specific Conductivity (millimhos/cm)	TDS (mg/L)	TOC (mg/L)	Chloride (mg/L)	Total Phosphorus (mg/L)	Static Water Level (inches)
1SA 2008	8.71	494	635	2.2	2.7	0.43	10.21
1SA 2009	7.2	693	612	20.5	35.1	0.43	10
2SA 2009	6.8	730	557	19.5	3.6	0.21	9.25
1SA 2010	6.8	426	277	5.1	18.7	1.16	10
2SA 2010	7.2	754	712	51.4	Not available	3.05	10
Average	7.3	619	559	19.7	15.0	1.06	9.9
Groundwater Standard	6.5-9	None	1000	10	50	None	None

TableA.3. Regression Analysis for pH

Monitoring Well	**R^2 Value**
MW-1	0.3181
MW-2	0.6206

Table A.4. Regression Analysis for Specific Conductivity

Monitoring Well	**R^2 Value**
MW-1	0.4779
MW-2	0.1081

Table A.5. Regression Analysis for TDS

Monitoring Well	**R^2 Value**
MW-1	0.2653
MW-2	0.0407

Table A.6. Regression Analysis for TOC

Monitoring Well	**R^2 Value**
MW-1	0.7104
MW-2	0.4467

Table A.7. Regression Analysis for Chloride

Monitoring Well	**R^2 Value**
MW-1	0.9518
MW-2	0.0702

Table A.8. Regression Analysis for Total Phosphorus

Monitoring Well	**R^2 Value**
MW-1	0.0535
MW-2	0.5352

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

PIEDMONT REGIONAL OFFICE
4949-A Cox Road
Glen Allen, Virginia 23060
(804) 527-5020
Fax (804) 527-5106
www.deq.state.va.us

Robert G. Burnley
Director

Gerard Seeley, Jr.
Piedmont Regional Director

February 24, 2003

Mr. Dane Whitehead
Smurfit-Stone Container Corporation
P.O. Box 511
West Point, VA 23181

Re: VPDES Permit #VA0090433 - Operations and Maintenance Manual

Dear Mr. Whitehead:

The Department of Environmental Quality staff has reviewed and hereby approves, with the inclusion submittal Stormwater Pollution Prevention Plan (SWPPP), the Operation and Maintenance (O&M) Manual for the St. Laurent West Point Sawmill.

Copies of the approved O&M Manual and SWPPP, including this letter, should be kept at the facility for reference. If you have any questions, please call me at 804-527-5055.

Sincerely,

Steven G. Stell
Chief Inspector

cc: DEQ - Kilmarnock Office
DEQ - PRO O&M File

Smurfit-Stone
Forest Resources

cc: PRO file
O&M
R/G, Right
R/R, Left

RECEIVED
FEB 19 2003
PRO

February 17, 2003

Mr. Steve Stell
Virginia Department of Environmental Quality
4949-A Cox Road
Glen Allen, VA 23060

Re: WL #W2003-01-K-1004
St. Laurent West Point Sawmill
VPDES Permit No. VA0090433 (Response)

Dear Mr. Stell

This is in response to the warning letter dated Feb. 6, 2003 addressed to St. Laurent West Point Sawmill VPDES# VA0090433.

A. Outfall 009- The settlement pond this past summer dried up and was covered with grass. There was no water in the pond for quite a long period of time. I can not be sure when the pond filled back up with water. In the future we will monitor the pond more closely and turn in a timely DMR for 009.
B. SWPPP- We have a complete SWPPP in hand. Please see the enclosed copy.
C. Operations and Maintenance Manual- We have an O&M in hand. Please see the enclosed copy.

Should you have any other questions or comments feel free to contact me. My office phone is 804/843-5722 and my cell is 804/512-9710.

Sincerely,

Dane Whitehead
Smurfit-Stone Container Corporation

Smurfit-Stone Container Corporation
Forest Resources
P.O. Box 511 West Point, VA 23181 phone 804-843-5544 fax 804-843-5655

Apex environmental, inc.

468 Southlake Boulevard
Richmond, VA 23236
Telephone 804-897-2718
Facsimile 804-897-2794

COPY

SEDIMENTATION POND OPERATIONS AND MAINTENANCE AND GROUNDWATER MONITORING PLAN

Smurfit-Stone Forest Resources
West Point Sawmill
33072 King William Road
West Point, Virginia 23181
VPDES Permit: VA0090433

Prepared For:

Smurfit-Stone

Mr. Dane Whitehead
Smurfit-Stone Forest Resources
P.O. Box 511
15th and Main Streets
West Point, Virginia 23181

Prepared By:

Apex Environmental, Inc.
468 Southlake Boulevard
Richmond, Virginia 23236

June 2002
Apex Job Number: 768359.002

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 SITE LOCATION AND DESCRIPTION 1

3.0 SEDIMENTATION POND OPERATIONS AND MAINTANENCE 5

4.0 GROUNDWATER MONITORING 5

4.1 Site Specific Geologic Information 6

4.2 Groundwater Monitoring Well Installation 6

4.3 Groundwater Sampling and Analysis 6

5.0 GROUNDWATER MONITORING RECORDKEEPING AND REPORTING 7

List of Figures

Figure 1. Site Location 2

Figure 2. Site Plan 3

Figure 3. Groundwater Monitoring Well Locations 4

List of Appendices

Appendix A Boring Logs / Monitoring Well Construction Diagrams

1.0 INTRODUCTION

Apex Environmental, Inc. (Apex) was retained by Smurfit-Stone Container Forest Resources (Smurfit-Stone), formerly St. Laurent Paperboard, Inc., to develop an operation and maintenance (O&M) plan for the onsite sedimentation pond and a groundwater monitoring plan for the 2 groundwater monitoring wells installed at the West Point Sawmill Facility. This Sedimentation Pond O&M and Groundwater Monitoring Plan has been prepared in accordance with Virginia Pollution Discharge Elimination System (VPDES) Permit No. VA0090433.

2.0 SITE LOCATION AND DESCRIPTION

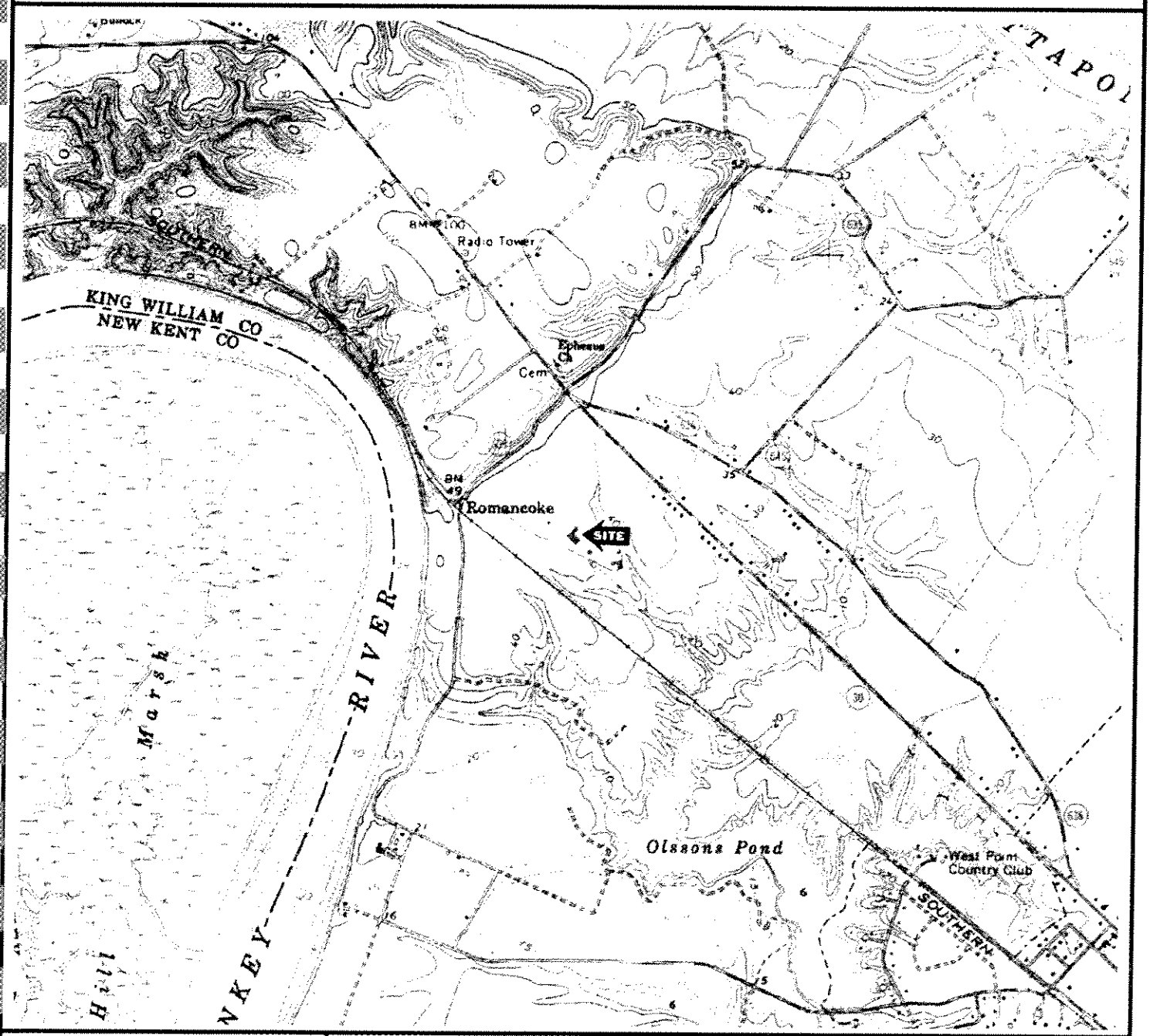
The facility is located at 33072 King William Road in West Point, Virginia (Figure 1). The facility was operated as a sawmill and planer mill and ceased operation on December 12, 2001. The facility, when in operation, receives logs and untreated lumber and processes it into useable building products. The site is approximately 33.7 acres in size and consists of a dense hardwood area, office building, several metal operation buildings, aboveground storage tanks (AST) area, log storage area, gravel and concrete lumber storage areas, sediment ponds, drainage swales and ditches, and utility improvements. Facility operation buildings include a maintenance shop, storage shed, sawmill, planer mill, lumber sorters, lumber kilns, sawdust silo, boiler building, lumber storage buildings, and scale house (Figure 2).

The subject property is abutted by the Southern Railroad to the southwest. King William Road abuts the subject property to the northeast beyond which lies residential properties. West Point Log Corporation abuts the subject property to the southeast beyond which lies Olssons Pond. Undeveloped dense hardwood abuts the property to the northwest. One outfall, "001/901", is located at the property. Outfall "001/901" receives discharge from the sediment pond located in the central portion of the property. Several drainage swales and ditches discharge from the facility operation areas to the sediment pond. Outfall "001" discharges along the southeastern property boundary to an unnamed intermittent tributary to Olssons Pond. Outfall "001" is identified as "901" during a rain event.

Two groundwater monitoring wells were installed adjacent to the sedimentation basin to provide groundwater monitoring in accordance with the permit. Groundwater monitoring well locations are depicted on Figure 3.

Figure 1
Site Location Map

Smurfit-Stone West Point Sawmill
33072 King William Road (State Route 30)
West Point, Virginia



468 Southlake Boulevard
Richmond, VA 23233
Telephone: (804) 897-2718

Apex environmental, inc.

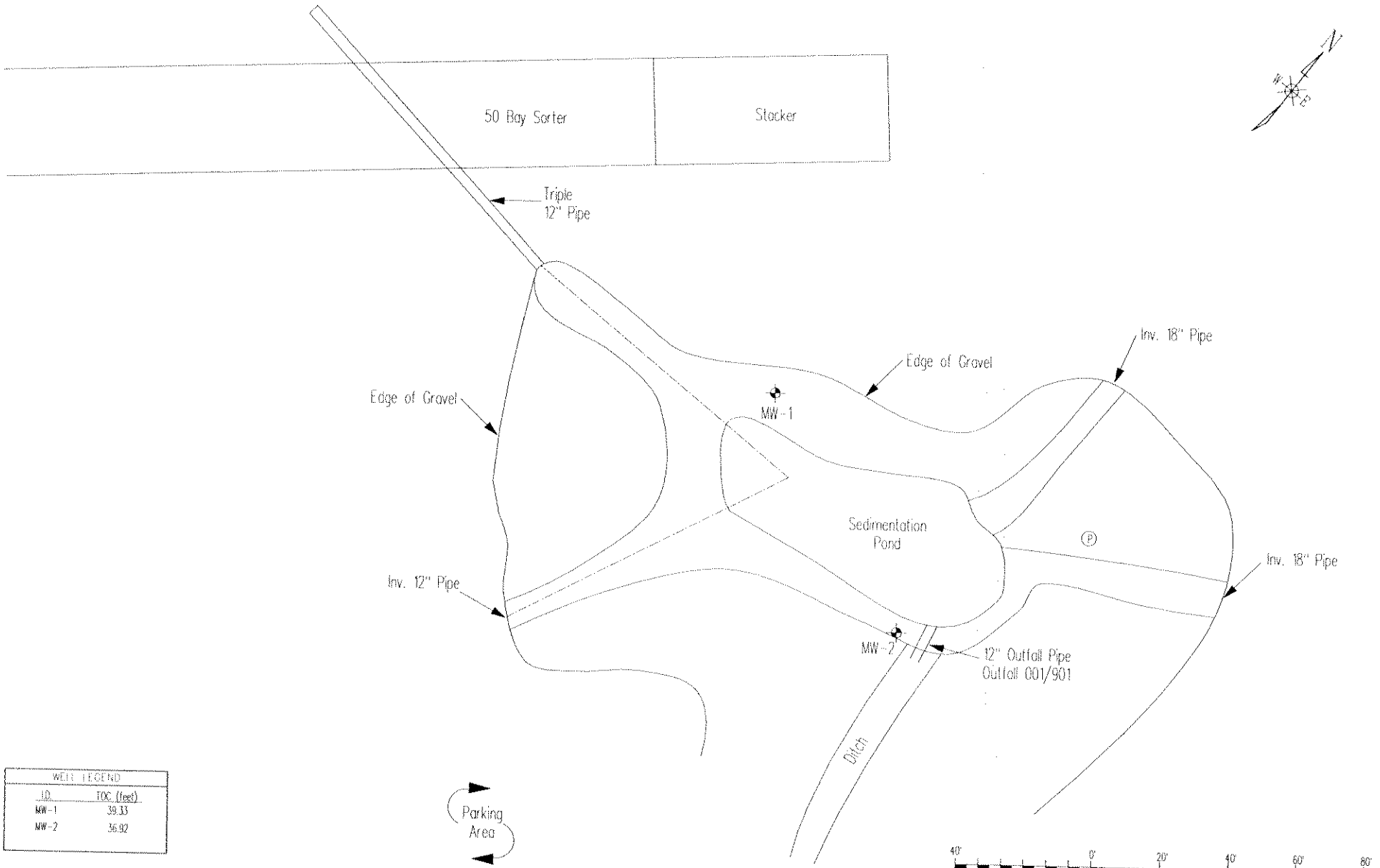
United States Department of the Interior
Geological Survey
7.5 Minute Series Topographic Map
Contour Interval: 10 feet
Scale: 1 inch = 2000 feet

West Point, Virginia
1965, revised 1986

Project: Misc. Consulting
Client: Smurfit-Stone
Apex Job #: 768359.002
Date: June 2002

Figure 2 – Site Plan

Full size site plan is provided in the SPCC and SWPPP Plans



WELL LEGEND	
ID	TOC (feet)
MW-1	39.33
MW-2	36.92

LEGEND

- Groundwater Monitoring Well Location
- (P) Utility Pole

			DR: BNW	07 JAN 02
			CK:	
			APPD:	
			SCALE: 1" = 40'	
			APEX PROJ. NO: 76B359.002	
NO.	BY	DATE	www.apexenv.com	

VPDES PERMIT #VA0090133

Apex environmental, inc.©
466 SOUTHLAKE BOULEVARD
RICHMOND, VIRGINIA 23236
(804) 897-2718
apexva@erols.com

DRAWING TITLE
Groundwater Monitoring Well Locations
Smurfit-Stone (Formerly St. Laurent)
33072 King William
West Point, Virginia 23181

DRAWING NUMBER: FIGURE No. 2

REV: 0

3.0 SEDIMENTATION POND OPERATIONS AND MAINTANENCE

As required by Part I.C.5 of VPDES Permit No. VA0090433, Smurfit-Stone is responsible for the development and implementation of an operations and maintenance (O&M) plan intended for the onsite sedimentation pond. Based on guidance obtained from the King William County Environmental Codes Compliance office, routine O&M activities for the sedimentation basin should include the following:

- All grasses will be mowed at a minimum on a semi-annual basis.
- Trees and shrubs will not be permitted to grow on the dam or in the emergency spillway.
- Replanting and overseeding. If vegetation covers less than 40% of the soil surface, lime, fertilize and seed in accordance with current recommendations for new seeding. If vegetation covers more than 40% but less than 70% of the soil surface, lime, fertilize and overseed in accordance with current recommendations.
- Trash and litter will be removed as needed to prevent obstruction of the flow of water, prevent degradation of downstream properties, maintain the integrity of the structure and to provide an attractive appearance.
- Accumulated sediments will be removed before the pond loses 10% of the designed storage capacity. Sediment will be removed from conveyance passages before it impairs the structural integrity of the channels.
- Sediment disposal should be in accordance with current procedures for disposal of sediment and sludge.
- Slopes that have been impaired by slides, slumps, and erosion will be repaired within 30 days. Burrowing and digging by animals will be repaired within 30 days.
- Pipes, headwalls, etc. will be maintained, repaired and/or replaced as needed to maintain the integrity of the structure.

Regular visual inspections of the facility ensure that all elements of the sedimentation basin O&M Plan have been implemented and are working properly. Routine facility inspections will be carried out by a qualified individual and documented on a quarterly basis.

4.0 GROUNDWATER MONITORING

In accordance to VPDES Permit No. VA0090433, Smurfit-Stone will be required to perform groundwater monitoring of the two wells on a semi-annual basis. In October 2001, the two groundwater monitoring wells were installed adjacent to the sedimentation basin to provide groundwater monitoring and collection of data required to characterize site-specific hydrogeologic conditions. Groundwater monitoring well MW-2 was installed approximately 10 feet to the west of Outfall 001and hydraulically downgradient of the sedimentation pond. Groundwater monitoring well MW-1 was installed approximately 80 feet (upgradient) to the northwest of monitoring well MW-2. Groundwater monitoring well locations are depicted on Figure 3.

4.1 Geologic Information

Based on review of well logs published in *Geologic Studies, Coastal Plain of Virginia* (Virginia Division of Mineral Resources, 1973), the subject property is underlain by post-Yorktown sedimentary strata known as the Columbia Group. These deposits, Pliocene through Holocene in age, range in thickness to at least 122 feet, and consist of oxidized clays, silts, sands, and gravels. According to the *Geologic Map and Generalized Cross Sections of The Coastal Plain and Adjacent Parts of the Piedmont Virginia* (1989), the site probably is underlain by the Shirley Formation, described *as light- to dark-gray, bluish-gray and brown sand, gravel, silt, clay and peat; at altitudes to 35-40 feet".*

During soil boring installation, Apex observed fine- to medium-grained, light-brown to dark-gray sand. Site-specific lithologic characterizations of subsurface conditions are provided on the soil boring and groundwater monitoring well construction logs provided as Appendix A. .

4.2 Groundwater Monitoring Well Installation

Two soil borings were drilled on October 22, 2001 using a truck-mounted drill rig equipped with continuous-flight, hollow-stem augers with an internal diameter (I.D.) of 4.25 inches. Hollow-stem auger drilling methods were utilized to collect split-spoon soil samples and to facilitate monitoring well construction upon completion of the borings. Two-inch diameter, 24-inch long split-spoon samplers were used to collect subsurface soil samples at 5-foot intervals during drilling. Drilling and split-spoon sampling were conducted in accordance with ASTM-D-1586-87 protocol. Contact downhole drilling equipment (hollow-stem augers, drill rods) was decontaminated prior to drilling using a steam cleaner with a design discharge of 180°F. Sampling equipment was decontaminated using a phosphate-free detergent solution and distilled water rinse. The soil borings were completed as groundwater monitoring wells MW-1 and MW-2, each to a depth of 11.5 feet below ground surface. Each monitoring well was constructed of 10 feet of screen 0.010" slotted PVC screen and 1.5 feet of PVC casing. The boreholes were backfilled with approximately 10 feet of sand and 1.5 feet of bentonite and were completed with a flush-mount manway and locking expansion well cap. Monitoring well construction diagrams and soil lithologic characterization is included in Appendix A to this report.

4.4 Groundwater Sampling and Analysis

In accordance with VPDES Permit No. VA0090433, Smurfit-Stone will collect groundwater samples from the 2 monitoring wells adjacent to the sedimentation basin on a semi annual basis. Static water levels will be recorded prior to sampling the groundwater monitoring wells. Prior to

sampling the groundwater monitoring wells will be purged to collect groundwater samples representative of aquifer conditions. The 2 monitoring wells will be purged to the point at which temperature, pH, and conductivity values stabilize or until a minimum of three well volumes have been displaced. Groundwater samples will be collected using dedicated, disposable high-density polyethylene (HDPE) bailers. Groundwater samples will be transferred directly into the appropriate laboratory-grade sample containers. Clean, disposable, non-powdered latex gloves will be used during all phases of sample collection. The samples will be labeled and maintained on ice pending delivery to an independent laboratory. Strict sample security and chain-of-custody documentation will be maintained during all phases of transport.

In accordance to VPDES Permit No. VA0090433, Smurfit-Stone will be required to perform semi-annual groundwater monitoring. A tabular summary of the groundwater analyses, analytical methods, sampling frequencies and sampling requirements are presented below in Table 1.

Table 1.
Semi-annual Groundwater Monitoring

Parameter	Analytical Method	Collection Media	Preservative / Holding Time
Chloride	EPA 9252	250 mL HDPE	<4°C / 28 days
Dissolved Solids	EPA 160.1	250 mL HDPE	28 days
Total Organic Chloride (TOC)	SM 5310-C	2x40 mL	H_2SO_4, <4°C / 28 days
pH	EPA 15.01	250 mL HDPE	None
Total Phosphorous	SM 4500-P	250 mL HDPE	H_2SO_4, <4°C / 28 days
Specific Conductance	EPA 120.1	250 mL HDPE	28 days

5.0 GROUNDWATER MONITORING RECORDKEEPING AND REPORTING

In accordance to Part II of VPDES Permit No. VA0090433, Smurfit-Stone will be responsible for the retention of all monitoring information, copies of all reports required by this permit and records of all data used to complete the application for the VPDES permit for a period of 3 years from the date of the sample, measurement report or application. The period of retention will be extended automatically during the course of any unresolved litigation regarding the regulated activity or control standard applicable to Smurfit-Stone.

Subsequent to analyses of the groundwater samples submitted to the laboratory, analytical data will be evaluated and compared to data obtained during prior monitoring events. Groundwater Monitoring reports will be reported to the DEQ PRO. At a minimum, all parameters will be monitored semi-annually with reports due by January 10 and July 10 each year until the expiration date of the permit.

Appendix A

Boring Logs /
Groundwater Monitoring Well
Construction Diagrams

Apex environmental, inc.
468 SOUTHLAKE BOULEVARD
RICHMOND, VIRGINIA 23236
TELEPHONE: (804) 897-2718

Project: Smurfit-Stone West Point Sawmill	Job No.: 762357.002
Location: West Point, VA	Boring/Well ID: MW-1
Date: October 23, 2001	
Project Manager: Chris Cheatham	

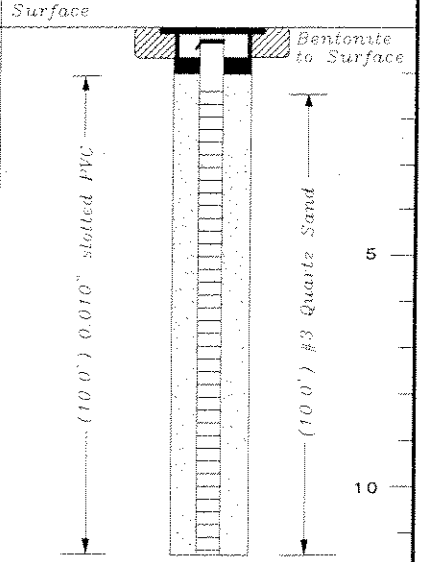
Start Date: 10/22/01
Complete Date: 10/22/01
Well Cap: Locking Expansion
Security Box: Flush-Mount

Hole Diameter: 4.25 inches (I.D.)
Casing Diameter: 2.00 (I.D.)
Drilling Method: Hollow Stem Auger

Top of Casing Elevation: 39.33'
Total Depth: 11.5'
Remarks: _____

Depth (feet)	Sample ID	Blows	Rec/Adv (in)	PID (ppm)	Water Table	Lithology	Geologic Description
	SB-1-1	5 8 7 10	14/24		▽		Gravel surface (0' to 3') Brown to dark gray SAND; fine- to medium-grained; wet. (3' to 5') Brown to light gray SAND; medium- to fine-grained; wet. Groundwater encountered @ approximately 4.5'. (5' to 7') Brown to light gray SAND; wet.
	SB-1-2	7 8 7 8	18/24				(8' to 10') Light to dark gray SAND; fine-grained; wet.
10							Boring terminated at approximately 11.5 feet below ground surface. Converted to groundwater monitoring well MW-1.
15							
20							
25							
30							

Well Diagram



ologist: _____

Apex environmental, inc.
468 SOUTHLAKE BOULEVARD
RICHMOND, VIRGINIA 23236
TELEPHONE: (804) 897-2718

Project: Smurfit-Stone West Point Sawmill	Job No.: 762357.002
Location: West Point, VA	Boring/Well ID: MW-1
Date: October 23, 2001	
Project Manager: Chris Cheatham	

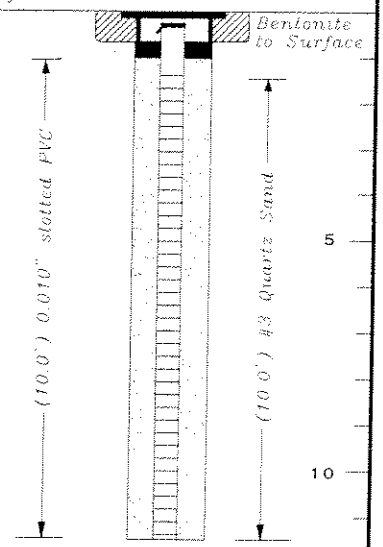
tart Date: 10/22/01
Complete Date: 10/22/01
ell Cap: Locking Expansion
ecurity Box: Flush-Mount

Hole Diameter: 4.25 inches (I.D.)
Casing Diameter: 2.00 (I.D.)
Drilling Method: Hollow Stem Auger

Top of Casing Elevation: 39.33'
Total Depth: 11.5'
Remarks: _____

Depth (feet)	Sample ID	Blows	Rec/Adv (in)	PID (ppm)	Water Table	Lithology	Geologic Description
	SB-1-1	5 8 7 10	14/24		▽		Gravel surface (0' to 3') Brown to dark gray SAND; fine- to medium-grained; wet. (3' to 5') Brown to light gray SAND; medium- to fine-grained; wet. Groundwater encountered @ approximately 4.5'. (5' to 7') Brown to light gray SAND; wet.
	SB-1-2	7 8 7 8	18/24				(8' to 10') Light to dark gray SAND; fine-grained; wet. Boring terminated at approximately 11.5 feet below ground surface. Converted to groundwater monitoring well MW-1.

Well Diagram



Apex environmental, inc.
468 SOUTHLAKE BOULEVARD
RICHMOND, VIRGINIA 23236
TELEPHONE: (804) 897-2718

Project: Smurfit-Stone West Point Sawmill	Job No.: 762357.002
Location: West Point, VA	Boring/Well ID: MW-2
Date: October 23, 2001	
Project Manager: Chris Cheatham	

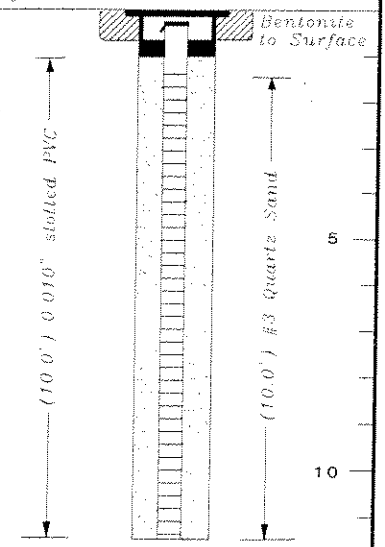
Start Date: 10/22/01
Complete Date: 10/22/01
Well Cap: Locking Expansion
Security Box: Flush-Mount

Hole Diameter: 4.25 inches (I.D.)
Casing Diameter: 2.00 (I.D.)
Drilling Method: Hollow Stem Auger

Top of Casing Elevation: 36.92'
Total Depth: 11.5'
Remarks: _____

Depth (feet)	Sample ID	Blows	Rec/Adv (in)	PID (ppm)	Water Table	Lithology	Geologic Description
0	SB-1-1	4 8 9 11	13/24		▽		Grass surface (0' to 3') Light brown top-soil to .5'; brown to gray moist SAND. Groundwater encountered @ approximately 2.5'. (3' to 5') Brown to dark gray SAND; medium-grained; wet.
5	SB-1-2	9 10 7 5	21/24				(5' to 7') Light gray SAND; fine- to medium-grained; wet. (8' to 10') Light gray SAND; fine- to medium-grained; wet.
10							Boring terminated at approximately 11.5 feet below ground surface. Converted to groundwater monitoring well MW-2.
15							
20							
25							
30							

Well Diagram



Apex environmental, inc.
468 SOUTHLAKE BOULEVARD
RICHMOND, VIRGINIA 23236
TELEPHONE: (804) 897-2718

Project: Smurfit-Stone West Point Sawmill	Job No.: 762357.002
Location: West Point, VA	Boring/Well ID: MW-2
Date: October 23, 2001	
Project Manager: Chris Cheatham	

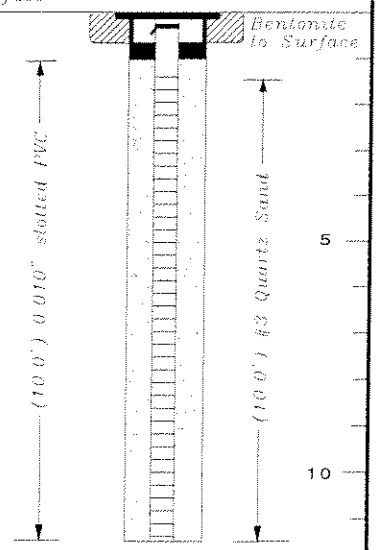
Start Date: 10/22/01
Complete Date: 10/22/01
Well Cap: Locking Expansion
Security Box: Flush-Mount

Hole Diameter: 4.25 inches (I.D.)
Casing Diameter: 2.00 (I.D.)
Drilling Method: Hollow Stem Auger

Top of Casing Elevation: 36.92'
Total Depth: 11.5'
Remarks: _____

Depth (feet)	Sample ID	Blows	Rec/Adv (in)	PID (ppm)	Water Table	Lithology	Geologic Description
0	SB-1-1	4 8 9 11	13/24		▽		Grass surface (0' to 3') Light brown top-soil to .5'; brown to gray moist SAND. Groundwater encountered @ approximately 2.5'. (3' to 5') Brown to dark gray SAND; medium-grained; wet.
5	SB-1-2	9 10 7 5	21/24				(5' to 7') Light gray SAND; fine- to medium-grained; wet. (8' to 10') Light gray SAND; fine- to medium-grained; wet.
10							Boring terminated at approximately 11.5 feet below ground surface. Converted to groundwater monitoring well MW-2.
15							
20							
25							
30							

Well Diagram



Geologist: Sally Statham